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CONTROLLING EXPENSE BY STANDARDS

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Slowly but surely income management is becoming a subject of real importance, and both personal and family budgets are finding a place and proving themselves useful even in the lives of the scoffers.

Failure to recognize and teach the necessity of flexibility in a budget has led to a widespread fear of the effect of a budget and there are many people who still believe that they can obtain greater and more satisfactory returns from a given income if they spend without a plan. They fail to acknowledge the benefits which would result from weighing values, and making deliberate, conscious effort to obtain the best possible return for their money. The teaching of budgets emphasizes the ethics of spending. To live by a budget is to develop and practice a system of wise choice in the purchase of goods and in the use of the income. The wise spending of any income must include the purchase of necessities, that is, food, shelter, and clothing sufficient to sustain life and permit efficient work, and such operating expense as is demanded by the need for heat, light, water, and cleanliness. "Necessities" should not be interpreted too narrowly, for every normal individual or family has social and recreational needs. The spending plan for even a small income should provide something for health, recreation, education, and taxes, together with savings sufficient to meet emergencies and maintain normal life during short periods of illness or other inability to produce the income.

"Budgeting" has seemed an impossibility to many people because they have failed to comprehend the simple principles upon which a successful budget must be built, or have been unwilling to control the impulse to spend at random. Conditions of living, education, and family traditions are never twice alike, and the personal equation is never so insistent as when the spending of money for family needs or

individual satisfaction is involved. This being the case, budgets to be used successfully must be made to fit the needs of the particular family or individual concerned.

In present-day teaching, the interest of the pupils is increased by making the subject as personal as possible, bringing their own needs and experiences into the discussions whenever it can be done. Every student should learn the use, limitations, and possibilities of money and the responsibilities connected with its possession, the need for becoming conscious of standards, and the cost of supplying those standards.

There is no better way to emphasize these points than by the study of actual situations. Discussions may from the first be devoted to questions of wise financial policy for real families. Later actual problems in making personal and family budgets should be presented to the students for solution. The interest of the pupils will grow with every problem which gives them knowledge of human needs and the many different ways in which they may be satisfied.

The problems must be real ones, accompanied by full details, with sufficient atmosphere to give a definite idea of the type of people involved. They should be presented as accurately as possible, only changed enough to disguise the source. Problems which are manufactured to order are not satisfactory; the class must feel the reality of the situations. Problems should be worked out at home and conclusions reported to the class. Each student will apply to the solution his own sense of values and will plan to spend for that which it seems to him will give the most desirable return. It is not necessary, perhaps not desirable, to try to decide upon the best solution of the problems. There is no best except for a given family, and as each student represents such a family in his own way, no one else can decide (although he may advise) that some other method of spending would be better.

To make a budget, the first step is to estimate the probable minimum income, and the time when it will be received. Be sure everything is considered, but that nothing is overestimated. When the income is received at irregular intervals the total for the year must be divided by twelve as the basis for monthly expenses.

Group all family or individual expenses under the six headings in general use, namely savings, food, shelter, clothing, operating, and development. These large divisions of expense must be carefully itemized, the cost of each item estimated, and combined in a plan for the disposal of the expected minimum income. The item of savings should be planned after careful attention to the other five, but treated

as a first expense and, so far as current use is concerned, forgotten after the total amount has once been deducted from the income.

It is only by getting a picture of the whole problem that it is possible to weigh one item against another and eliminate the less important in favor of greater values in expenditure. Such a picture may be represented by a circle within a circle. The area within the smaller circle represents the value of the amount saved (and income tax, if there is one) while the outer area represents the net income. Divide the outer circle into five equal sections which will represent the other five groups of expenditures and give a starting point for the value to be assigned to each group. That is, at the beginning these groups are considered as of equal value. At the end of the discussion, re-divide the circle and see what portion of some sections has been given up to the others. With a small income the division into fifths does not give money enough to buy proper food and shelter for the family, and some of the amounts allowed for other divisions must be used for the purchase of adequate food and safe shelter. Before the budget is completed many students will have given up most of the clothing money to food and shelter, while others will believe that development and operating should be drawn upon more heavily and that the fifth of the net income originally assigned to clothing should all be spent for clothing. The new divisions will bring out the fact that in reality the money value of each group of expenses is determined by the circumstances and idiosyncrasies of the family which is being studied. The habits and inclinations which they read into the character of the family, in addition to the known environment and ages of its members, will give the students very different reactions as to the value of the needs which must be met. The instructor must constantly bring the class back to realization of the fact that "adequate" food, "safe" shelter, "essential" operating, and "suitable" clothing, must be provided and something left for development and saving. The students' problem is to define the limit imposed by those adjectives and choose between the possible values represented by the surplus.

Starting with minimum apportionments, it is easy to spend a surplus in such a way as to obtain worthwhile results for any particular family.

If the start is made with maximum apportionments, there is more difficulty in reducing standards to provide a surplus. If there is no surplus, it may mean that too much has been set aside for savings, but it is more likely that the interpretation of the adjectives has been too liberal or that there is mismanagement in spending for food and clothing, or in the use of coal, light, and housekeeping supplies. Bring out the

facts that expenditures for food, clothing, and shelter grow larger with every increase in the amount of the income; and that in each division there are expenditures which might as properly be placed in that termed development (or region of choice), were it not that it is useless to try to divide expenditures into absolute essentials and luxuries. The budget maker is confronted with the knowledge that essentials for one family are luxuries for another. Arbitrary decisions must be made, and it is usually desirable to make them upon the basis of natural division rather than to split hairs and try to determine, for example, what portion of the amount paid for rent is essential for shelter, and what portion is spent to gratify a desire for extra comfort or enjoyment. When the amount spent overruns its apportionment, this difference between essentials and luxuries must be considered in deciding whether or not an expenditure is justifiable.

In estimating the probable cost of maintaining the standards of any given family, careful analysis of the situation will establish the probable minimum requirements for that family.

Requirements for shelter are based upon the occupation of the bread-winner, and available houses near the business, school, and social life of the family. The standard of size, comfort, and finish is affected by the number in the family, the health of the mother or children, and the social traditions of both mother and father—as well as by the amount of income. These standards are personal ones; averages never cope with tradition, education, and variations in health, numbers, or location. Wise spending for shelter means that all available houses shall be carefully canvassed and the needs of the family as to location, number of rooms, and type of house considered in connection with the supply. Physical, moral, and mental safety for the family as well as the amount of rent which the income can provide without sacrifice of other essentials, must be guides in making the final choice between possible houses. Sacrifice of social environment and many other desirable qualities may be necessary in order to secure shelter which is within the range of income. Shelter at the lowest possible cost consistent with safety indicates the minimum amount to be allowed from the income for rent and business carfare or cost of ownership and business carfare. When more money is available, it can be spent for greater privacy and the luxuries of more space, baths, lawns, gardens, and attractive location. When a house is owned, it is wise to allow either 2 or 3 per cent for repairs and depreciation, and the class should consider the use of a shelter fund from which all charges may be paid, and any amount

remaining saved from year to year, in order to meet bills for large repairs or painting when there is need.

Food costs must first be estimated on the basis of nutrition. It is necessary to know the minimum amount for which nourishment may be supplied to the family under discussion. Health, ages, occupations, and market supply must be considered. Food adequate for nourishment is the guide for a minimum food allowance. Luxuries in food should be purchased only after other allotments have been made and there is a surplus.

Minimum operating expenses are governed by the local rates for heat, light, and water; the requirements of the house and family for heat and light; the needs of the mother for service; and the size of the family and its standards of cleanliness. Luxuries in operating are wood fires; careless use of coal, gas, and electricity; waste of water and cleaning supplies; breakage of utensils. Telephone (usually), express, excessive postage, and unnecessary carfares may be provided only when there is a surplus available above the minimum noted above.

The minimum clothing allotment is determined by the number in the family, the occupation of the breadwinner, the social standing of the parents, the type of clothing worn by the playmates of the children, the ability of the mother to sew, and the location of the family home. City, country, and suburban life each make different demands upon clothing allotments. The variations in quality, quantity, and type of garments necessary to meet the demands of environment and of the work to be done, prove a real factor in estimating clothing costs.

Money spent for the development of the physical, spiritual, and mental sides of life is a part of the "necessary" expenditure of every family or individual with income enough to provide for its entire living expenses. There are state, federal, and community educational opportunities offered without cost to both children and adults through libraries, reading rooms, schools, extension classes, and clubs. The minimum amount to be used for development should be governed by the money available after the minimum allowances have been made for food, clothing, shelter, and operating.

The amount to be saved may be decided by consideration of three reasons for saving: emergencies, protection, and opportunity.

Emergencies might be covered by an amount equal to two or three weeks' income. In some cases a fund equal to six months or a year's income is desirable. This, if kept in a savings bank, is easily obtained in case of real need, but is away from daily temptation to spend.

Protection for the family, in case the income stops, is usually covered by life insurance.

Opportunity means a fund for building a house, higher education of the children, building an income for old age, or similar needs. For these there are cooperative banks or building and loan associations, credit unions, and opportunities for investment of funds accumulated in the savings bank. The family should decide upon its purpose in saving, the amount necessary to accomplish that purpose, and the length of time, which may be allowed to elapse before the amount is available. Dividing the total required by the number of years will give the minimum amount to be saved each year and dividing that by the number of days will show the weekly or monthly saving necessary if the family is to accomplish its purpose in saving. Interest on the amount saved will usually compensate for amounts withdrawn for real emergencies. provided the insurance and opportunity funds are not drawn upon.

When all the possible information regarding the cost of maintaining the family standards has been obtained, the different groups of expenditures may be sub-divided under three headings, fixed charges, charges possible to estimate, charges necessary to limit. Such an arrangement as this insures a survey of the whole expense with opportunity to choose between the various items which make up the list of charges necessary to limit. Students are often disturbed by the fact that an estimate for health must have an arbitrary limit, while illness is never limited by the state of the budget. The wise budget maker considers the average amount spent by the family during previous years, adds to that an allowance for unusual expenses which may loom ahead, for example, straightening teeth, an operation for adenoids, or changing glasses, and makes that total the limit which is to be met from the current income. Such matters as long illness and sudden expensive operations are the emergencies for which the family has been saving. These expenses should be met from savings, except when the budget admits of some reduction in other items, for example clothing, personal gifts, or personal luxuries.

A comparison of the estimated totals with the value of each section of the outer circle will show plainly what is being given up in order to provide the standards by which the family is spending. If the standards prove too expensive, they must be reduced until they fit into the income circle. The effort should be to plan for necessities and from the surplus obtain as many of the desires of the family as possible. The process is one of wise choice and substitution of greater value for less, and calls

for strength of character enough to use the resulting standards as a control of expense, rather than to spend on impulse without regard to the careful decisions made when the budget was planned.

Summary. The procedure for budget making may be briefly summarized as follows:

1. Estimate the probable minimum income for a year, not forgetting rents, allowances, interest, and similar receipts.

2. List the items which must be provided from that income, not forgetting variable or seasonal expense, like coal and doctor's bills, or the necessary item of saving.

3. Group these items under the six headings: savings, shelter, food, operating, clothing, and development.

Sub-divide each group under these headings: fixed charges, charges possible to estimate, and charges necessary to limit. For example, under operating expenses, fixed charges would include water if not metered, and charges possible to estimate must include water if metered, and coal, while under charges necessary to limit would come telephone toll calls and wood for fireplace.

4. Estimate the cost of maintaining the standard of living indicated by the items listed, write the estimates beside the items, and add the totals in each section or group of items.

5. Compare the total estimated expense with the total expected income. Weigh one expense against others, decide which will give the greatest return in value. Choose, discard, balance, reduce, increase, and compare until the result promises to provide the things most desired, adequate food, safe shelter, suitable clothing, and essential operating expenses (heat, light, and water), with a surplus for spiritual life, recreation, health, and saving.

6. Consult the plan before buying. If necessary to purchase something not included in the plan, know what is being given up in order to buy outside the plan. Make the plan control expense.

THE RELATION OF COOKING TO THE STUDY OF THE QUALITY AND PALATABILITY OF MEAT

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The cooking of meat has assumed an important position as a subject of scientific research since the quality and palatability of meat has been adopted as one of the national cooperative projects for research by the various state agricultural experiment stations and the U. S. Department of Agriculture. The quality of meat may be determined from two points of view, that of the fresh meat and the changes it undergoes in the process of ripening, and that of the cooked or otherwise treated product. So far as the consumer is concerned, the final estimate of quality is based largely on the cooked material, but he is indirectly concerned with the characteristics of the original meat because these influence the quality of the cooked meat. It is evident that for the study of the quality of meat to bring the best results, the various factors involved must be considered in close coordination, cooking among the rest.

To foster such coordination the general project[1] is in the hands of a committee of seven; this represents the Association of Land Grant Colleges and the American Society of Animal Production, and its chairman and secretary are F. B. Mumford, director of the Missouri Agricultural Experiment Station, and E. W. Sheets, chief of the Animal Husbandry Division, U. S. Department of Agriculture. It has subcommittees on various phases of the main subject, including one on cooking, of which the chairman is P. F. Trowbridge, director of the North Dakota Agricultural Experiment Station. Within the U. S. Department of Agriculture there is also a committee which studies the quality of cooked meat, of which the members are Louise Stanley, Sybil Smith, A. T. Edinger, L. B. Burk, and Paul E. Howe. The meats are cooked at the Bureau of Home Economics by Lucy Alexander. Many of the ideas presented in this paper have been developed or expressed in these committees.

Certain characteristics of meat introduce difficulties into the study of methods of cooking it. There are variations in the quantity of fat, bone, and connective tissue present. In any animal there are two cuts at most which may be regarded as similar, the corresponding ones from the right and left sides. In the case of the larger portions of the animal,

[1] The project is sponsored by the National Live Stock and Meat Board.

such as the round, it is, however, possible to obtain more than one sample from the same side providing they are carefully selected and not too large. Long muscles tend to be more uniform than short ones.

The quality of cooked meat as judged by the consumer depends largely on its palatability. Loosely used this term denotes all the sensations experienced when meat is eaten. Palatability thus serves as a measure of the efficiency or desirability of a method of cooking. In determining the palatability of any food we are dealing with factors which are somewhat difficult to measure and which have not hitherto received precise definition. It therefore seems worth while to consider some of the factors on which palatability of meat depends and their relation both to our present knowledge and to the developments hoped for as a result of further study.

The changes which occur in the cooking of meat result chiefly from the action of heat. The effect of cooking on the quality of meat is a complicated one. Meat is a complex protein-water structure, containing salts combined with a variable amount of fat. Different forms of protein are found in meat, and these differ both quantitatively and qualitatively, with the added fact that structural relations exist between the various forms, such as connective tissue and muscle plasma. Hence we must consider not only the effects of heat in coagulating or dissolving the proteins in general, but also its effects on individual forms which occur in restricted areas of the meat; for example, those in the fibrils or muscle bundles, part of which may later be dissolved or hardened. Furthermore the changes which take place in the muscle proteins as the result of rigor mortis bring about accompanying changes in their reaction to heat and thus influence the rate and character of the coagulation or, in the case of connective tissue, solution or hardening. The retention or loss of water by meat is affected by the extent of coagulation of the protein because this affects the ease of evaporation. Fat undoubtedly has an effect on the changes which occur in cooking; in the case of external fat, this may be by affecting either the penetration of heat or the loss of moisture; in the case of fat surrounding the muscle fibers it may be by modifying the processes of coagulation and water loss.

Certain effects of cooking may be roughly judged from our knowledge of the constituents themselves. The coagulation of muscle proteins begins at about 47°C. and is complete at 70 to 75°C. Grindley and Emmett (1) found that the expressed juice of muscle began to coagulate at 52°C. Long-continued heating in water tends to harden the coagulated material. Collagen is hydrolyzed to gelatin by heating in

water. Elastin is not readily hydrolyzed. The color of muscle, which consists primarily of hemoglobin and probably a muscle pigment, begins to change from the red characteristic of fresh meat to a brown at about 52°C. (1). Heating to a high temperature in dry heat breaks down the muscle extractives and yields the products characteristic of browning. Grindley and Emmett (1) found that washed meat residue from which the extractives and coloring matter had been removed develops little flavor when heated to 100°C. by boiling or to higher temperatures by broiling. The extract had a slight meaty flavor which was not much improved by heating to boiling. When the liquid extract was evaporated to dryness and heated to 130°C. browning occurred and there was an improvement of flavor; too long heating at this temperature destroyed the flavor. Ferrati (2) had made similar but less extensive observations. Fats are partially disintegrated by high temperatures (3). In the case of roasting, changes which occur in protein or extractives may assist in the breakdown of the fat by catalysis.

Two laboratories have made extensive studies of the changes in meat during cooking; Grindley and his associates (1, 4, 5) have studied the losses which occur in meat by different methods of cooking, including the amounts and kinds of materials which appear in the broths and juices. They have also studied the changes in the solubilities of the proteins. Any one who undertakes to study cooking should read these papers. The precise method of roasting meat (6) was developed in this laboratory in conjunction with E. C. Sprague. Lehmann and his students (7) studied the tenderness of meat and its causes. In this work Rumpf investigated the effect of cooking on the physical changes produced in meat by boiling. It was found that flank muscle lost less weight than fillet of beef. Connective tissue gained in weight. The difference between the two kinds of meat was ascribed to the greater amount of connective tissue in the flank muscle. The greatest loss in weight occurred in the first 15 minutes of heating. Meat from freshly-killed animals lost less weight than that which had been held for 24 to 30 hours. The tenderness of flank muscle increased rapidly during the first 5 minutes of boiling and approximated that of fillet in 30 minutes, while fillet increased slightly in toughness for the first 30 minutes and then returned to that of the fresh meat and even increased slightly in tenderness upon further heating. The results with regard to toughness are based on the use of a "biting" apparatus which had its specific limitations. The result may be affected by differences in elasticity which would modify the weight necessary to cause the meat to be severed.

The rate at which heat penetrates meat is probably influenced by such characteristics as a thick covering of fat or a large quantity of bone in proportion to the meat. Differences in the quantity of bone may be the result of the method of cutting, as for example the length of rib bone in relation to the size of the eye of meat in a rib cut of beef. This would be particularly important when we are considering the number of minutes of cooking per pound of meat to attain a certain degree of doneness. Just what effect these factors have has not been carefully determined; work in progress suggests certain possibilities but these have not been thoroughly substantiated.

When the object of the meat cooking experiment is to compare the qualities of meat from different animals or of different cuts, it is necessary to cook all specimens under uniform conditions, so that variations in the cooking process cannot enter into the final decisions as to the qualities of the products. Provided the cooking has been conducted under such definite, uniform conditions, differences in the character of the end product must be ascribed to some characteristic of the meat. Past experience (6) has shown that when meat, for example a roast, is brought to a given temperature, the meat in the immediate vicinity of the point where the temperature is determined will have reached a definite state of doneness. Various factors will modify the rate at which the desired condition is attained. The exact influence of these factors has not been thoroughly studied, for example in connection with searing, or with slow and rapid cooking as measured by low and high oven temperatures. It is evident that the maximum proportion of a piece of meat will reach a desired temperature if it is cooked at a temperature just above the desired one, and that this will be accomplished with a minimum loss of water, though not in the shortest possible time. To economize time and fuel it may be desirable to cook more rapidly, with a less uniform doneness and a slightly greater loss of water. In other words, assuming that the meat is to be cooked to a rare or medium rare condition, with a high temperature oven the zone of medium-done meat at the center will be smaller when the required internal temperature is attained than it would be with a lower temperature. This would restrict, of course, the quantity of meat of the desired degree of doneness which would be available for testing; this condition should not affect seriously the decision of a judge provided he tastes only that portion which has been properly cooked.

As regards the best oven temperatures for use in experimental meat cooking, intermediate ones appear satisfactory. The subcommittee on

cooking of the Committee of Seven on the study of the quality of meat has adopted the following conditions for the roasting of beef: Sear at an oven temperature of 275°C. for 20 minutes, transfer to an oven regulated at 125°C. and cook to an internal temperature in the roast of 57°C. Such cooking gives a somewhat rare medium-done roast which appears to offer the maximum opportunity for comparing the inherent qualities of the beef, though it may not be the most satisfactory for the average individual. Preliminary work by Bevier and Sprague (8) indicates that the best results with regard to flavor, juiciness, and appearance are obtained by searing at a fairly high temperature and at the beginning of the cooking. Different kinds of meat may require particular degrees of doneness as the best condition for comparison. Uniform conditions for cooking lamb and pork respectively are being studied at the Bureau of Home Economics, U. S. Department of Agriculture, and at the Department of Home Economics, University of Minnesota. Work done at the Bureau of Home Economics indicates that the average individual apparently requires lamb and probably also veal and pork to be roasted to a higher internal temperature than beef in order that it shall be done.

Cooking by other methods than by roasting and modifications of the method of roasting would of course introduce conditions requiring special consideration. In the case of boiling, for example, it has been shown (9) that quality of the cooked meat is modified by the length of time it remains in the water after the boiling has ceased. In roasting, the insertion of metal skewers into the meat has been proposed (10) as a means of hastening the speed at which the interior attains the desired temperature. The introduction of certain electric ranges, whose ovens are in effect specially heated fireless cookers, has opened the way for variations in the mode of cooking which were impossible in ordinary gas or coal stoves and only partially possible in those equipped with oven regulators or in fireless cookers. For example, in such an electric oven it is possible to start roasting at room temperature, bring the oven to a predetermined temperature at which the current will be automatically cut off, and let the cooking proceed with the heat already developed. It is also possible to start with meat in an oven in which the temperature is gradually raised to a predetermined point, and to maintain it there with a reasonable degree of accuracy for a given length of time, at the end of which the current may be automatically cut off; cooking may then be stopped or allowed to proceed as in the previous case. In addition to a variety of such temperature combina-

tions the modern electric oven offers the possibility of searing with radiant heat. Such processes are of interest to the housewife mainly as matters of convenience, but the modifications which they introduce into the usually accepted methods of roasting are also of concern in studying the relation of cooking to quality in meat.

Even when a uniform cooking process has been defined and applied, it sometimes happens that the product is not uniform throughout. Though the desired temperature has been attained in the inner portion of a roast, there are often differences in the portions of cooked meat. The question then arises, should one assume that the cooking has not been correctly carried out or that the differences are inherent in the meat? The latter is to our mind the proper assumption. If the quality of one product is inferior or superior to that of another cooked under the same conditions, the cause of the differences should be sought in the original meat.

The problem of judging the palatability of cooked meat is not simple. The chief factors in palatability are flavor and aroma, juiciness, and tenderness. The judge must be able to distinguish these and to note with considerable accuracy to what degree and in what condition each is present. Such ability comes only with continued experience and a wide variation in the quality of the meats tested. In the matter of tenderness, for instance, unless the judge has had the opportunity of experiencing degrees of tenderness in meats of different quality, it is difficult for him to express a more definite opinion regarding a given specimen than to say that it is or is not tender. With such experience it soon becomes fairly easy to distinguish the relative tenderness of a series of meats examined at one time. Much more difficult is the comparison between meats judged at considerable intervals of time. Nevertheless, as the investigator proceeds, he gradually acquires a more or less absolute standard for judging the factors of palatability.

Flavor is a factor of palatability especially difficult to judge in cooked meats. The flavor inherent in raw meat comes chiefly from the extractives and the fat and may be changed or developed as the result of cooking. The reason why roasting is the most satisfactory method of cooking meat whose flavor is to be tested is that the temperature in the interior of the roast does not rise sufficiently high to develop marked flavors, and in the cooked meat we are probably still dealing with the inherent flavor of the meat.

The question of flavor further shows the interrelation of the various factors of palatability and raises important points regarding the two

terms. Palatability, strictly speaking, relates to taste; flavor also relates to taste. The psychologists and physiologists tell us that taste is probably restricted to four factors—acid, sweet, bitter, salt (11, 12). The finer "flavors" are really odors or aromas. In determining the palatability or flavor of a substance such as meat it is chewed in the mouth. The process of chewing, the ease or difficulty with which meat may be chewed, and its resistance to the surfaces of the mouth may be affected by the fineness of grain, the quantity of connective tissue, the hardness to which the fibers are cooked, and by the fatness of the meat. The moisture contained in the meat will also have its effect on the mental impression of the individual. The average individual will obtain a composite impression of all of these factors which to him constitutes palatability. For the investigator it is necessary, however, to attempt to differentiate between as many of these components as possible. He must train himself, therefore, to distinguish between tenderness, juiciness, odor, and flavor, and since it is especially difficult to get a sample of the lean entirely free from fat, he must, if possible, further distinguish the flavor of the fat independently of that of the lean and try to determine what part of the flavor of the lean is due to intra or intercellular fat. The fat can easily be sampled, without any admixture of lean.

The admixture of fat and lean has to be considered also in judging both tenderness and juiciness. Tenderness is of course influenced by the distribution of fat and the effect it has on the separation of the fibers.

Juiciness might be considered as simply an expression of the total quantity of readily expressible liquid present in the meat. There is, however, a quality in the juiciness of meat in which another factor appears to be involved, possibly fat. Dr. Louise Stanley has suggested that the term "richness of the juice" be applied to this quality. It might also be described by one often used in the arts, namely "body." If the quality of the juice is affected by the fat it contains then it must be judged in warm meat. In addition to this direct effect on the quality of the juice of meat, fat is indirectly concerned with juiciness because it affects the loss of moisture from the exterior of the meat and possibly also its passage from the interior to the exterior.

The method of recording personal observations made on meats or their products is a matter of great importance in a study of palatability. The fundamental goal of any judge when scoring experimentally should be to *describe* as accurately as possible the substance which he is studying. To aid in this some form of score card is usually provided. Two types are in most common use; in one the relative values of the factors under

consideration are expressed in a list of descriptive words among which the judge checks those which seem to him to describe most accurately the material in question; in the other the relative values are to be ranked numerically. The former appears preferable for several reasons. The numerical evaluation of the judgment recorded, if desirable at all, does not necessarily concern the person scoring. The rank to be given to certain valuations may change as the work proceeds; in such a case the descriptive score can be re-evaluated at any time, whereas it is difficult to re-evaluate a numerical score. Often, for example, in the process of investigation the importance of some characteristic becomes evident, and it is desirable to go back to previous records to see if this condition existed and had an influence in previous work. This review of old work would not be possible with a method of scoring where the scorer indicated his opinion of value by numerical rank, unless at the same time he recorded a definite observation as to the significance of his evaluation.

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THE PREPARATION OF FURS: FUR DRESSING

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If you should ask a really thoughtful furrier who was the greatest benefactor of the human race, he would answer "The man who took the smell out of skunk skins." Everything is in the point of view.

No one should regret the passing of the "Indian-tanned" deerskin clothing of frontier days. Those picturesque garments needed the open spaces and it was just as well if the open spaces were windy and cold, for on a still, damp day, when the weather was mild, you could smell those oldtime garments as far as you could see them. Of course the product of the finest Indian tanning was good, soft, smoothly even, and reasonably waterproof, but at best, it would not pass muster commercially in our day.

The functions of the fur dresser and the fur dyer are to arrest the decomposition of the pelt, giving it permanence, and to improve its attractiveness from the standpoint of sight, smell, and feeling. The former function is accomplished chiefly through dressing and the latter through dyeing, although either process may overlap the other.

In fur dressing, the processes are, fundamentally, those that have been practiced since the beginning of history. The manner in which this is accomplished has changed, and is continually changing, but the same principles are involved as in the most primitive times.

To arrest decomposition, the animal fats and the tissues or cells, subject to undesirable change, are removed by scraping and washing. The gelatinous substance (called coriin), which cements together the fibers of the true or inner skin (called corium), is broken down and the fibers are preserved by coating with a preservative, which also serves as a lubricant, and not only gives the pelt a long lease of life and renders it relatively waterproof at ordinary temperatures, but further gives it the flexibility so essential to the comfort of the wearer.

The savage accomplished this in the following manner: The skin was immersed in a pool or stream for some hours or days, according to its size and thickness. The water swelled the skin and dissolved some of its more soluble ingredients.

Then it was laid, fur side down, over a smooth log and the fat and the connecting tissue that binds the skin to the animal's body were scraped off with a dull knife, care being taken not to cut into the true

skin or corium. There followed more scraping and more soaking in water until, in the course of time, the scraping process was dispensed with, and a rubbing process commenced. A stick held by an end in each hand of the native was rubbed back and forth, with plenty of muscle back of it, over the flesh side of the skin, the result being a separation of the network of fibers forming the corium and the partial breaking down of the coriin or gelatinous cement between these fibers.

Then into the skin—and by "into" I mean in between and around each fiber—was forced animal fat, usually from the brain of the animal itself. It was smeared on the skin side of the pelt and rubbed in with a stick or the ball of the thumb, tedious and very hard labor, continued until the skin would absorb no more fat without being greasy to sight or touch. This fat oxidized to some extent and in so doing served to preserve the fibers of the skin.

Somewhere back in the Stone or Bronze Ages, certain substances were found to expedite the processes described. For example, it was discovered that common salt added to the water in which the skins were soaked, opened up the fibers and let in the fats more readily and also acted as a preservative. Alum also came into use and borax and certain vegetable agents containing tannin, such as nut-galls, acorns, oak bark, sumach, or acacia. Nowadays, though tannin is used in preparing leather, we still use salt or alum in dressing furs.

We have, however, progressed scientifically, for we soak the fur skins in a "pickle," a 10 per cent saline solution to which is added half an ounce of sulfuric acid to the gallon of liquor. The acid swells the skin, breaks down the coriin, and permits the salt to get in between the fibers.

Instead of working in animal fats, we use vegetable oils quite extensively, although various animal oils such as whale oil and neat's-foot oil are in use also.

Instead of rubbing the skin with a stick to separate the fibers, we put them in a revolving drum with a few round iron balls, and tumble them about, or we draw them back and forth over the edge of a dull knife.

Instead of drying the skins on the side of a hut, we put them in a centrifugal hydro-extractor and simply whiz them dry, or place them in especially constructed drying rooms.

With these changes, the dressing of furs is more rapid, but really there is no such vast difference between the old and the new as one finds in some industries.

I have not described our process in detail, but have mainly tried to give a general idea of them. Austin, in "Principles and Practices of Fur Dressing and Fur Dyeing"[1] describes six dressing processes, namely:

1. Salt-acid tan (described roughly above).
2. Mineral tans (solutions of salts of aluminum, cormuim, or iron being used).
3. Chamois tan (a modification of the Indian tan first described).
4. Formaldehyde tan (the use of formaldehyde solutions is modern).
5. Combination tans (for example, combinations of pickle and mineral tans, or pickle and chamois tans).
6. Vegetable tans (hardly ever used, but some of the vegetable dyes used have tanning properties).

During and following these soaking, scraping, and rubbing processes, we comb out tangled patches of hair, wash out stains on the fur, and tumble the skins about in a revolving drum with sawdust that absorbs excess oils and cleanses the fur, or with fine sand that polishes the fur fibers. Then the sawdust or sand is screened out of the fur by means of a revolving wire cage in which the furs are tumbled about, the sand or sawdust falling through the mesh.

Some skins are ready for manufacture as soon as they leave the dresser, but more must be dyed or otherwise improved, by unhairing, pointing, blending, or shearing.

Unhairing is the removal of the guard hairs or top hairs of certain furs, leaving the body-fur. Sealskins are unhaired. The long guard hairs detract from the appearance of a sealskin and indeed you might not know it was a sealskin if you saw it before the hairs were removed.

Formerly these hairs were cut off or plucked out by hand, but nowadays ingenuous mechanical devices do the work.

Rabbit and muskrat skins to be used for seal-dyeing are also unhaired as are nutria, beaver, otter, and others in which the under fur is the chief attraction.

Some skins, notably certain lamb and kid skins of inferior quality, from the furrier's standpoint, are sheared close and the moiré effect that results simulates skins of a higher order, making beautiful and durable garments. The popular "American broadtail" is a species of lamb from South America with a wool that is pecularily wavy near the skin. When it is sheared closely, the moiré effect is beautiful. Still other

[1] Principles and Practices of Fur Dressing and Fur Dyeing. New York: D. Van Nostrand Company, 1922.

skins are treated to straighten out the curl and produce long silky fur or hair.

In some cases furs are pointed; that is, hairs are added to simulate a more costly skin. Pointed fox, for example, is usually either red or white fox dyed black, to which white hairs have been added by a very tedious process. Sometimes, indeed, an inferior natural silver fox is made to look like a good one by the judicious addition of a few white hairs. The fur pointer sits before a good specimen of a silver fox skin, or a good example of her own work, and carefully copies it by inserting white badger hair into the inferior skin where her eye tells her it is needed.

This is done in the following manner: namely, holding the skin with her left hand, she picks up a white badger hair with her right and dips one end of it into especially prepared cement. A tiny globule of cement sticks to it. Then she blows gently into the fur at the point where the white hair should be. The effect is to create a funnel-shaped pit in the fur and into this she puts the white hair with its globule of cement. The cement instantly connects with several other hairs growing naturally in the skin and, hardening, anchors the foreign hair firmly. The process is repeated until the desired silver effect is attained.

As is not at all usual with imitations, the pointed fox is fully as durable as genuine silver fox and a good pointed fox is more beautiful than a poor silver fox.

Blending is the process of putting a little more emphasis on the stripe, or on the difference in color between the surface of the fur and the under fur, in a mink for instance, than nature has done. It must be done carefully to simulate nature's handiwork. Certain chemicals in solution, or in some cases true dye-stuffs, are brushed on by hand with a feather or fine haired brush, only the surface of the fur being touched. This is also done to renovate certain old furs, or to darken light ones.

Skins are sometimes stenciled to imitate leopard, and recently while abroad, I saw some hand-painted fur skins, flat-haired skins with sprays of flowers painted on them.

COEFFICIENT OF DIGESTIBILITY AND DYNAMIC ACTION OF A SIMPLE DIET IN CONTRASTING TYPES OF INDIVIDUALS[1]

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It is commonly recognized that different persons vary in their food demands, that of two persons of similar body build and apparent activity one may eat more than the other in order to maintain his usual state of nutrition.

One suggestion frequently made to explain this variation is difference in the stimulating effect of food—different specific dynamic action. Another suggestion is that some persons may digest and absorb a higher proportion of the food they eat than do others. Although a vast amount of experimental study has been done in the field of metabolism, comparatively few data have accumulated that relate to these considerations.

The study here reported was undertaken to find out whether such differences existed among five representatives of two types of healthy adults. Seven experiments of six days each (one of the five subjects serving three times) were conducted in which the subjects ate three meals a day of simple mixed food. The increase in energy metabolism after eating and the coefficient of digestibility of the diet were determined for each person.

Selection of subjects. The participants in this study, five graduate women in home economics in the University of Chicago, were selected primarily as representatives of contrasting temperamental types. The following adjectives set down in pairs serve to differentiate the two types; type I, vivacious, tense, quick-moving, irascible, and excitable; and type II, placid, relaxed, deliberate, phlegmatic, and calm. Naturally these adjectives apply with variable force to the individuals in each group, yet those acquainted with the subjects agreed that R. S., P. S. G., and J. W. belong to type I, while E. S. and A. M. S. are of type II.

Another possible classification of the subjects on the basis of body build and tendency to gain in weight is less clear-cut, for one of the vivacious subjects (P. S. G.) and the two placid ones (E. S. and A. M. S.) are easy weight gainers, while the other vivacious persons are relatively difficult weight gainers.

[1] The data are taken from the thesis of Jessie Whitacre submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the University of Chicago, 1926.

The subjects all happened to be rather large women. Height in four cases varied from 5 feet, 6½ inches to 5 feet, 8 inches; the fifth person's height was 5 feet 4 inches. Weight of two subjects was 118 pounds and 193 pounds respectively, the former being 14.7 per cent below her weight standard[2] and the latter 50.7 per cent above. The weights of the remaining three persons ranged from 137 pounds to 152 pounds and were within the usual limits (± 10 per cent) of variation from weight standard.

Experimental diet. In planning the diet the aim was to provide foods of such kind and amount as would meet present-day criteria of adequacy, serve to maintain the weight of each subject during the experiment, and be palatable and satisfying. The diet was composed of white bread, butter fat, whole milk powder, winesap apples, Idaho potatoes, ground beef freed of all visible fat, celery, sugar, salt, and water.

A representative record of the distribution of nutrients and calories in the daily diet is given in table 1, wherein the figures are for the food intake of J. W. in her third experiment and P. S. G.

TABLE 1

Distribution of nutrients and calories in the daily diet

FOOD MATERIAL	QUANTITY EATEN	PROTEIN		FAT		CARBOHYDRATES		TOTAL ENERGY
	grams	*grams*	*calories*	*grams*	*calories*	*grams*	*calories*	*calories*
Bread.....	135	10.2	45	3.3	30	72.9	298	373
Butter-fat....	63	—	—	63.0	595	—	—	595
Klim.....	81	21.6	93	24.3	231	29.4	120	444
Sugar.....	40	—	—	—	—	40.0	164	164
Apple.....	300	0.6	3	0.3	3	42.3	174	180
Meat.....	135	28.0	122	3.9	37	—	—	159
Potato.....	400	8.6	38	0.6	6	67.4	276	320
Celery.....	170	1.6	6	0.1	1	5.2	22	29
Total.....		70.6	307	95.5	903	257.2	1054	2264

In calculating the fuel value of the food eaten, the percentage compositions found by analyses were used, and the calorific factors, protein 4.35, fat 9.45, carbohydrate 4.1, were not reduced for loss in digestion, since coefficients of digestibility were determined in this study. So calculated, the daily energy values of diets consumed were: J. S. (I), 2381 calories; J. W. (II), 2385 calories; A. M. S. and E. S., 2532 calories; J.W. (III) and P. S. G., 2264 calories; R. S., 2224 calories. The distri-

[2] See tables published by the Association of Life Insurance Medical Directors and Acturial Society of America. Medico-Acturial Mortality Investigation, **2**: 13.

bution of calories among the nutrients was approximately: protein 13 per cent, fat 40 per cent, carbohydrate 47 per cent.

With this diet there was practical weight equilibrium for the experimental period. In four cases, the differences between body weight on the first and last day were respectively: $\frac{3}{4}$ pound,—$\frac{3}{4}$ pound, 0, $\frac{1}{4}$ pound. The overweight subject lost $3\frac{1}{4}$ pounds during the six-day period. J. W. lost in period II $1\frac{1}{4}$ pounds, in period III $2\frac{1}{2}$ pounds. These losses for J. W. are undoubtedly the result of the unusually long and strenuous physical exertion, especially on the last three experimental days of these two periods, while the food intake was of usual value.

Further evidences of adequacy lie in the provision of ample bulk, sources of vitamins A, B, and C, and acid-base balance agreeing with Sherman's recommendation. By calculation with use of the analytical results of this paper, the protein in the diet was found to be 70 gm. per person per day, or slightly more than 1 gm. per kg. of body weight per day. By calculation from data given by Sherman in Chemistry of Food and Nutrition, the daily calcium supply amounted to more than 1 gm., the phosphorus to 1.3 gm., and the iron to 13.6 mg.; and 970 calories came from base-forming foods, 530 calories from acid-formers. These amounts for women whose body weights averaged 64 kg. were apparently exceedingly generous in the case of calcium, more than ample for phosphorus, and almost optimum for iron.

The attitude of the subjects toward the diet afforded an interesting surprise. Each meal was eaten with relish. To no one did the diet become monotonous either as a whole or in parts. Palate preferences, e.g., potatoes for A. M. S. and E. S., celery for R. S. and P. S. G., and apples for J. W. were quite as pronounced at the end as at the beginning of the period. R. S. found taking milk, which she disliked, less effort at the end than in the first days of the experimental period. This experience strongly suggests the preclusion of objection to monotony in the diet by qualitative adequacy.

Determining coefficients of digestibility. All food portions eaten during each six-day experimental period, except water and salt, were carefully weighed on trip scales and food was consumed as nearly quantitatively as possible. The first three days of the experimental period served for preliminary adjustment. On the last three days samples of food were taken for drying in an electric oven at 80° to 95°C., and the urine was collected and also the feces belonging to these three days as shown by carmine marking. The feces, after admixture with alcohol acidulated by concentrated hydrochloric acid, were dried on a water bath.

All foods were analyzed except butter fat and sugar, which were considered 100 per cent pure fat and pure carbohydrate respectively.

For determination of nitrogen in urine the micro-Kjedahl method of Koch and McMeekin (1) was used, and a modification of it (2) for nitrogen in food and feces. Ether-soluble substances in meat, potatoes, apples, celery, and feces were determined by the Soxhlet extraction method, in bread by the tentative A. O. A. C. method (3), and in Klim by Jephcott's modification (4) of the Werner-Schmidt method. Total ash was determined by following in general the directions of Woodman (5). Carbohydrates were found "by difference."

Coefficients of digestibility were calculated by the common equation: $\frac{\text{grams ingested—grams in feces}}{\text{grams ingested}} \times 100 = \text{percentage absorbed}$; that is, no account was taken of the loss of organic constituents through metabolic sources.

Determining energy metabolism. On some one of the last three experimental days chosen for each subject, a series of eight successive determinations of her energy metabolism (oxygen consumption) was made. The first of these was a basal measurement; then followed two after breakfast, three after dinner, two after supper. Physical exertion on this day was both limited in amount and very light, such as preparing meals or washing dishes, or reading. Each test was preceded by a 30-minute rest period. Thus all factors except food which would materially alter the metabolism from the basal level were eliminated during the time of the test.

The measurement of oxygen consumption was made with a Sanborn type of Benedict portable respiration apparatus—an early machine remodeled according to Roth (6) so as to operate with flutter valves rather than an electric impeller. A recording kymograph with timer was also used to make a graphic record of the respiration during the test period. This record served in the calculation of the oxygen consumption according to the method of Carpenter and Fox (7). Each metabolism test consisted of two consecutive readings which agreed within narrow limits. None differed more than 4 per cent, most by less than 2 per cent, and many by less than 1 per cent.

Coefficients of digestibility. A summary of the intake, the losses in excreta, the balances, and the coefficients of digestibility is given in table 2 on page 24.

Coefficients of digestibility referred to types of subjects. The striking similarity rather than differences in the results for the several individuals

TABLE 2

Average daily intake, outgo, and coefficients of digestibility

SUBJECT	NITROGEN						FAT			CARBOHYDRATE		
	Intake	Outgo			Balance	Coefficient	Intake	Outgo in feces	Coefficient	Intake	Outgo in feces	Coefficient
		Feces	Urine	Total								
	grams	grams	grams	grams	grams		grams	grams		grams	grams	
A. M. S.	11.30	1.57	8.51	10.08	1.22	86.1	111.0	2.33	98.0	287.5	4.63	98.3
E. S.	11.30	1.91	8.70	10.61	0.69	83.1	111.0	3.03	97.3	287.5	6.20	97.8
J. W. II.	11.30	1.45	9.26	10.71	0.59	87.2	99.0	2.54	97.4	279.3	5.17	98.1
J. W., I.	11.05	1.65	9.77	11.42	−0.37	85.1	93.6	1.63	98.2	292.5	6.14	97.9
J. W., III.	11.41	1.50	9.85	11.35	0.06	86.9	95.5	2.50	97.4	256.9	4.43	98.3
P. S. G.	11.41	1.40	10.22	11.63	−0.21	87.7	95.5	3.41	96.4	256.9	4.15	98.4
R. S.	11.24	1.97	8.84	10.81	0.43	82.5	95.4	3.88	95.9	248.4	6.01	97.6

is the most interesting point in the figures for nitrogen balance and coefficients of digestibility. It is not possible, on the basis of these results, to make any correlation between loss in digestion, or, stated conversely, food utilization, and the type of individual, whether differentiation of types be by temperamental or body-build characteristics. This finding, even with attention particularly directed to constrasting types, is in keeping with that of Atwater and Benedict (8) in 1903; they concluded from the results of 50 digestion experiments on three healthy active young men that individuality had no influence upon digestibility.

Energy metabolism. Each subject had a normal or almost normal basal metabolism as compared with the Harris and Benedict standard (9). All variations fell on the negative side. One of the placid subjects, E. S., and one of the vivacious, P. S. G., were 11 per cent below their predicted level. The average for the group of five women was −6.5 per cent. This tendency to run below the standard has frequently been observed with the women in this laboratory (10, 11).

The summary of the energy metabolism tests, with the percentage increase in metabolism after meals, is reported in table 3.

The ingestion of a simple mixed meal effected a prompt rise in oxygen consumption, the tests having been made when all stimulating factors other than food had been eliminated. From the observed peak of rise appearing usually at 1 hour after the meal, the fall toward basal level was more gradual. The basal plane was never reached subsequent to eating, within the experimental day.

The longer duration of the stimulus of the larger meals, especially of the one containing the meat and having a total protein content of 44 gm., was apparent in every case.

The peak observed after breakfast (about 550 calories) was 15 per cent to 30 per cent above basal level; after dinner (about 900 to 1000 calories) 31 per cent to 46 per cent above basal level; after supper (about 825 to 900 calories) 26 to 58 per cent above basal level, although most rises were between 30 per cent and 40 per cent.

The increases in metabolism following meals as observed in this study agree in general with those of previous investigations with simple mixed food; a few such studies are cited (8, 12, 13, 14, 15, 16, 17). After dinner and after supper values are in striking agreement with the average figures reported by Magnus-Levy (12) who studied one subject while on three meals a day.

TABLE 3

Basal energy metabolism and percentage of increase after meals

SUBJECT	TYPE	BASAL METABOLISM	INCREASES						
			After breakfast		After dinner			After supper	
			1 hour	2½ hours	1 hour	2½ hours	4 hours	1 hour	2½ hours
		grams of O_2 per minute	*per cent*	*per cent*	*per cent*	*per cent*	*per cent*	*per cent*	*per cent*
A. M. S.	Placid	236	*15*	7	34	23	*36*	*41*	36
E. S.	Placid	189	24	*25*	*48*	44	30	*49*	32
J. W., II	Vivacious	191	18	*24*	*46*	37	34	*58*	24
J. W. I.*	Vivacious	183	*30*	25	*41*	35	15	*39*	38
J. W., III	Vivacious	185	*28*	18	32	*45*	26	*29*	17
P. S. G.	Vivacious	177	*24*	18	*43*	25	18	*34*	23
R. S.	Vivacious	183	*29*	9	*31*	28	25	*26*	17

* The meat in this experiment was eaten at the evening meal; in all others at noon.

Energy metabolism referred to type of subject. The height of the peak observed was not significantly different for the two types of individuals. Both the lowest and the highest peaks were in the tense, vivacious group.

The two placid subjects proved to have the more gradual fall in oxygen consumption following meals, especially after dinner and supper. The percentage elevations at the time of the last measurement after supper were farther above their base lines for the placid than were those of the vivacious persons; the former stood at 32 to 35 per cent above basal value, the latter at 17 to 23 per cent above basal value. For the placid subjects the peak for the day came at one hour after supper rather than at one hour after dinner as was the rule for the vivacious subjects. Thus there was nothing either in amount of rise or in duration of stimulation to indicate that the dynamic effect of the food was more marked in the vivacious group than in the placid.

Pulse rate. The pulse rate (table 4) invariably underwent increases after eating, followed by decreases, not unlike the changes in oxygen consumption. For example, J. W.'s basal pulse rates on the three days observed were 60, 56, 66; and her maximum rates, observed one hour after the meal, were 70, 72, 74. The highest oxygen consumption and the highest pulse rate often, but not always, fell together. The rise and especially the fall of the pulse tended to come sooner than the corresponding changes in metabolism. The counts were of course all made after the subject had been lying quiet for the half hour in preparation for the metabolism observation, and therefore showed only food effects, not exercise.

TABLE 4

Basal pulse rate and pulse rate after meals

SUBJECT	BASAL PULSE	After breakfast		After dinner			After supper	
		1 hour	2½ hours	1 hour	2½ hours	4 hours	1 hour	2½ hours
A. M. S.....	72	82	73	82	70	68	82	82
E. S.....	62	78	66	78	68	65	77	70
J. W., II.....	60	66	60	70	62	58	70	60
J. W., I.....	66	72	72	74	72	62	73	66
J. W., III....	56	72	65	65	63	60	62	64
P. S. G.....	53	63	52	67	59	51	63	55
R. S.....	73	84	71	86	83	74	86	78

Observations of respiration rate, which were also made, brought no significant variation and are therefore not included here.

Conclusions. On the basis of the findings in this study three conclusions may be drawn with particular reference to the five subjects here representing contrasting temperamental types.

1. There was no correlation between type of individual and coefficients of digestibility. All coefficients were strikingly similar for the five subjects in the seven experiments.

2. Vivacious persons as a type appear not to be subject to unusually great specific dynamic action of food, since the height of elevation of oxygen consumption over basal was not significantly different for the two types, and stimulation in the vivacious proved in these experiments to be less prolonged than in the placid.

3. A less specific dynamic action of food and higher coefficient of digestibility can scarcely be used as an explanation of easy gaining of weight by overweight and placid persons, since the coefficients were strikingly similar for the entire group and since the placid subjects here

experienced a more prolonged stimulation by food than did the vivacious subjects, rather than the shorter stimulation that might be expected if difference in specific dynamic action existed.

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HOME ECONOMICS FOR HIGH SCHOOL BOYS

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The teaching of various phases of homemaking to boys is no longer a novel undertaking. Several accounts of such courses have been published recently, and show that they can be successfully carried out. Having been much interested in what has already been done in this field, we were pleased when a request for a course in home economics came to us from a group of boys in our Teachers College High School.

We received considerable advice to the effect that boys would be interested in nothing but processes and skill in cooking, and that the principles underlying the choice of food and clothing and other home activities would mean nothing to them. Of course we could not approve a course in which skills only were involved, and we felt that boys of average mentality would not be satisfied with such a course. To determine what the boys were interested in, we called a meeting and asked them to tell freely and frankly what they wanted. After some discussion and after consideration of courses given to boys in other schools, our boys voted to have their course made up of the following units:

1. Selection and preparation of foods for dinners.
2. Selection and care of clothing for men.
3. Budgets for boys and men.
4. Duties of a host.
5. First aid.
6. Camp cookery.

The class started with eight boys, but at the end of the first week the enrollment was sixteen, and several boys were refused admission because the laboratory could not accommodate them. The attitude of the class has been good, and we are pleased to find that the boys show especial interest in selection of food in relation to health. This is probably due to the fact that the majority of them are on one of the ball teams and therefore desirous of being in good physical condition.

We have reason to believe that our work with boys has only started and that they will continue to desire training in the homemaking activities that are of direct value to them.

EDITORIAL

A New Year Message. Someone has said:

"Each age is a dream that is dying
And one that is coming to birth."

For the American Home Economics Association the dream that is coming to birth as the year changes seems to be a very happy one, a dream full of promise for future achievement. During the past five years our membership has increased seven fold, we have established offices in Washington, where a full-time editor of our JOURNAL, an executive secretary, and a field worker in child development and parental education represent us. Our finances have been put on a sound basis. Committees and sections are carrying out promising projects financed from general Association funds. Our recent annual meeting is universally acclaimed as most successful.

Every state excepting one has an affiliated state association. Canada has one affiliated association. These and other accomplishments our organization has to its credit.

To those who have wrought so well we pay tribute. They have set a standard calling for the interest and support of all if the future is to fulfill the promise of work well begun.

Great strength brings great responsibility and calls for wise and careful guidance. The American Home Economics Association needs your thoughtful consideration and your advice.

New Year's greetings to you!

Do not forget to include attendance at the summer meeting in Asheville, June 21 to 24, among your New Year's resolutions.

LITA BANE,
President, American Home Economics Association.

Thrift Week. Franklin's birthday on January 17 is what determines the date of the week which is annually devoted to public emphasis of the national importance of thrift and which in 1927 comes January 16 to 22. To have it come so early in the new year is appropriate for another reason; budget-makers and thrift specialists insist that you should allow for your savings before you plan for your spendings, a

point of view quite in harmony with this invitation to the country to consider thrift before it has had time to consider many other features of its year's work.

As its share in the celebration of the week this year, the JOURNAL is fortunate to be able to give its readers the article on the budget by S. Agnes Donham, whose books and lectures on the use of the family income have made her a recognized authority. That she can put into practice what she preaches and that this pays, all members of the American Home Economics Association gratefully acknowledge, for the faithful and skillful guidance which as controller she has exercised over Association finances is one of the important elements in our present modest but secure financial status. If we followed her advice on personal and family budgets perhaps some of us would feel an equal increase of security in our individual affairs. Certainly no one who does not already budget his expenses could use Thrift Week to better advantage than by following her clear and practical precepts.

Thrift Through Standardization. Home economists agree with the economists and the practical business men who maintain that there are flaws in our national economy fully as important as those in our personal economy, fundamental though the latter are. Saving through standardization and simplified practice was described in the JOURNAL for January, 1926, by Mr. Hudson and Mr. Priest of the division of simplified practice in the U. S. Department of Commerce, and the American Home Economics Association has a committee on cooperation with that division. It is interesting to see from Miss Cook's article on page 33 how home economics textile study may make its contribution to the movement by helping to fix standards acceptable to housekeepers for one important household commodity, sheeting, and thus to hasten the time when the cost of producing and selling it can be reduced by simplified practice.

Student Clubs. Every student club affiliated with the American Home Economics Association was invited last spring to send in a short account of its history and any unusual or suggestive features of its activities. The purpose of this request was twofold: first, to give the Association the information necessary for making satisfactory suggestions for the organization and programs of clubs; and second, to stimulate a wholesome rivalry among the clubs by publishing the best of the accounts in the JOURNAL OF HOME ECONOMICS.

Over fifty reports were received from the 303 clubs then on the list. These have been read by a committee consisting of the executive secretary, the editor of the JOURNAL OF HOME ECONOMICS, and a representative of the clubs—or rather two representatives, for Virginia Buck, chairman of the committee of student club representatives, and Beulah Rogers, their publicity chairman, finally shared the responsibility. The choice of the best papers has not been easy. To begin with, the majority were unexpectedly good in both form and content, and none stood out markedly above the rest. Furthermore it seemed hardly fair to apply the same standards of judgment to clubs in high schools, normal schools, and colleges. As a result, the most satisfactory way of awarding merit seemed to be to select one report from each of these three groups. Even within the groups no one paper was given first place by all the judges.

In this number appears the report finally chosen to represent high school clubs, that from the Lake View High School, Chicago. Honorable mention should also be given to the clubs at West Philadelphia and at Wakefield, Michigan. In the next two months we hope to publish the papers representing normal schools and colleges.

Meanwhile all the papers are being used in the preparation of the next bulletin of the Association, which is to be devoted primarily to the subject of student clubs and which will probably be ready for distribution within a few weeks.

Annual Meeting. Asheville, North Carolina, June 21 to 24, are to be marked on all home economists' calendars as the place and time for the next meeting of the American Home Economics Association. There is no one hotel in Asheville large enough to accommodate all who attend, but fortunately there are several excellent ones near together among which members will find ample, comfortable, and convenient quarters. Definite information about these and about railway rates will appear in due course.

How the Southern Region is working to make the meeting a success appeared when the representatives of fifteen state associations met in Washington while the Land-Grant College Association was in session. Though their southern instincts of hospitality were bubbling over into all kinds of jolly schemes for entertainment, they "sublimated" them into a request to the program committee to provide speakers of a kind to make the Asheville meeting stand out in the history of the Association and of home economics, a request which the Executive Committee

heartily endorsed at its meeting on November 18 and 19 and which is entirely in line with the plans and wishes of the program committee.

Not but what there will be fun enough—trust the South to show us how it has a good time, and in a way characteristic of the beautiful country in which we are to meet. The North Carolina mountains in June are in themselves attraction enough and there are plenty of not too expensive nearby places to which one can slip off later for a few days' hiking or motoring or just feasting one's eyes on the blue distance.

Child Development and Parental Education. Our field worker is anxious to have in the Washington office a complete record of all work in child development and parental education which was under way on October 1, 1926, and urges that reports of such work and available material connected with it be sent to her at once. Address Miss Anna E. Richardson, 617 Mills Building, Washington, D. C.

OPEN FORUM

How Can Our Method of Buying Textiles Be Made Reliable?[1]

We have all had the experience of being disappointed in textile purchases.

Are the factors we have been taught to consider adequate or did we fail to use the knowledge we possessed?

To make a study of the reliability of the methods of buying textiles it is necessary first to analyze buying practice, and second to find out the quality most commonly desired in a given commodity. Sheeting seems to be a material in which there are few conflicting characteristics. Consensus of opinion also shows that wearing quality or durability is by far the most desired characteristic in sheeting. Analysis of the buying of sheetings shows that the consumer judges the value of the goods by scrutiny, by feeling, and by pulling or rubbing; she asks the salesperson for his judgment of the value of the different pieces; and she compares goods with prices.

The study here reported, therefore, included a test of the consumer's judgment, the salesperson's judgment, and a comparison of prices with quality in order to check on the value of each step of procedure in the buying process.

Nine brands of sheeting were tested for the three factors which textile experts believe to be the determining characteristics of quality, namely tensile strength, weight, and thread count, and by combining these statistically a quality rating was determined for each sheeting.

Consumers, many of whom were textile teachers, were then given generous samples of the same sheetings and asked to rate them in order of quality, employing the usual store method of judging. The salespeople in two stores were also asked to judge the quality of these samples in the same way.

The accompanying table gives the quality ratings for the nine sheetings as determined in the laboratory, together with the average of ratings assigned by consumers and by salespersons, and the price figured on the basis of one yard of material 45 inches wide.

It will be seen that the consumer's judgment of sheeting qualities

[1] The study on which this paper is based was done by the author at Teachers College, Columbia University, in cooperation with Mrs. Ellen B. McGowan and Dr. B. R. Andrews.

Average ratings given to 9 brands of sheeting in laboratory tests, by consumers, and by salespersons, with price

RATING OF SAMPLES ACCORDING TO LABORATORY TESTS	LABORATORY SCORE	RATING BY CONSUMERS	RATING BY SALESPERSONS	PRICE PER YARD, 45 INCHES WIDE
				cents
1. C	1.8	4	5[1]	36
2. B	3.5	7	7	35
3. E	3.6	5[1]	1	86
4. G	3.8	2	5[2]	36
5. I	4.1	1	4	42
6. F	5.3	5[2]	3	26
7. D	7	3	2	44
8[1]. H	7.8	8	9	36
8[2]. A	7.8	9	8	31

was poor and the salesperson's no better. The true significance of these faulty judgments is even better appreciated in the light of the relative prices of these sheetings; thus I, costing forth-two cents per yard and rated fourth by laboratory tests, was thought by the consumer to be first in value, while C, costing thirty-six cents, was first in laboratory rating. Thus, the consumer not only misjudged the quality of the sheeting but paid one-sixth more than she would have for the best sheeting. Again, D was rated third by consumers though laboratory tests placed it seventh, and in this case the price was almost 25 per cent higher than B, which was second in laboratory quality. The salespeople placed E, costing eighty-six cents per yard, first though by test it ranked third; like the consumer, they also placed D second though its true place was seventh. C, ranked first by laboratory tests, was placed fourth and fifth by the consumer and the salespeople respectively.

One other interesting feature is that the laboratory ratings of samples B, E, G, and I were practically alike in quality, there being only six-tenth of a point in difference between the four, yet neither the consumer nor salespeople recognized this similarity.

Two similar sets of tests were later made, nine other brands of sheeting being used in each. In both sets the final results and conclusions agreed with the first test. The total number of judges in the three sets of tests was over one hundred.

The obvious conclusion drawn from this study is that present buying practice is not reliable.

These data were placed before Mr. R. M. Hudson, chief of the division of simplified practice, Department of Commerce, to see if some plan could be worked out with the producer by which sheetings could be

graded and classified so that the consumer could have more definite knowledge of the grades or qualities at the time of purchase. The following quotation from his reply expresses his attitude in the matter and outlines our further work:

> Regarding your studies of variety in grade or quality of different classes of textiles, it appears from the data you have obtained thus far that there is a great need for the establishment of adequate standards by which the consumer will be enabled to judge more accurately the relative values of these commodities.
>
> Our suggestion is that you continue your studies until you have amassed enough data to permit specific and positive conclusions, meanwhile stimulating interest in the general subject among women's clubs, home economics groups, and other representative organizations of ultimate consumers. Similarly, it would be advisable to gain further cooperation from the manufacturers and distributors of these goods, since they are undoubtedly interested in grade or quality standardization as the basis of their guarantees to their customers.
>
> Whenever you feel the time is ripe, send us a written request, representative of the willingness of all concerned to cooperate in the establishment of such standards, and we will then call a conference to discuss the matter and to take such action as will insure the result sought.

The work of placing this matter before consumers and other interested persons is going steadily ahead and it is hoped that enough interest will be manifested through signed petitions to warrant a call for a conference before the end of the present school year. Petitions for such a conference have already been signed by individuals and organizations conservatively estimated to represent 20,000 people. Among them are 17 state and 9 city supervisors of home economics, 12 state home economics associations, 78 state colleges, and 28 representatives of the Department of the American Home in the General Federation of Women's Clubs.

Will those in a position to do textile research cooperate by repeating the test on still more brands of sheeting? Details of the method of procedure and technique will be furnished upon request, also a list of the brands already tested.

Will others assist by placing the matter before consumer groups and organizations in order to secure the necessary evidence of interest as shown by petitions for the conference? Reports and petitions for signature will be furnished upon request.

And last, but not least, will all consumers make a point of inquiring for graded sheetings and talking to salespeople, buyers, and merchants of the advantages of such a plan, so that the trade may be the more ready to cooperate in getting a workable method perfected and to approve and adopt it when completed?

ROSAMOND COOK,
University of Cincinnati, Cincinnati.

Home Economics Club at Lake View High School, Chicago. The Home Economics Club of Lake View High School is now organized in two distinct parts, a senior and a junior club with separate officers, sponsors, and activities. Both clubs meet bi-monthly during school hours. The senior club has a membership of 83 while the junior club numbers 204. Each club is affiliated with the Illinois and the American Home Economics Association.

The original club began in September, 1924, with a membership of 40. A constitution, similar to the one suggested for student clubs by the JOURNAL OF HOME ECONOMICS, was adopted. Membership in the club has been open to any girl in school who has expressed a desire to belong. In February, 1925, the junior group formed a separate club with a membership of 90. It adopted the same constitution as the original club, now the senior club, and both clubs have the same pins, dues, club song, motto, and yell. The work of each club is carried on through various committees, both standing and temporary. The aims of the club as set forth in the constitution are carried out in the programs that are educational in character, or social, or philanthropic. The clubs plan to supplement rather than duplicate work offered in various courses in the department of home economics.

One of the outstanding ideas in presenting educational programs has been to emphasize health. Demonstrations of first aid, health plays taken from good health magazines and from material issued by the National Dairy Council; exhibits and charts on health topics loaned by the American Medical Association and the Elizabeth McCormick Foundation; talks on health habits by leaders from the latter organization, an illustrated talk and demonstration on shoes by a representative of the Cantilever Shoe Company; all these have helped place health first on our programs. Lantern slides illustrating various aspects of food and clothing have been explained by members. Practical demonstrations on food topics have been given by representatives of the Calumet Baking Powder Company and the People's Gas Company; and a repre-

sentative of Colgate and Company has given a very helpful demonstration on the laundering of fine textile fabrics. Illustrated talks on the selection and care of hosiery have been planned. An "antique" program was arranged by girls who brought old-fashioned or foreign articles of clothing or rare bits of furnishings. One of the large city banks sent a representative to talk to the girls on intelligent spending. Talks on general social usage, table manners, business and travel etiquette have also been planned.

The business of the clubs has been carried on with reference to good parliamentary form and procedure. Opportunity for all the members to take part in the program has been provided by debates on topics of uniforms for high school girls, and the cash and carry method of shopping.

One of the particular features of the home economics clubs at Lake View High School is the trips to various points of interest. The club members have visited a large pasteurizing plant, a woolen mill, a large cleaning and dyeing establishment, a modern large bakery, a candy factory, a commercial laundry, a large hotel kitchen, dining room, and lounge; they have visited various sections of the large department stores in the city. A long-to-be remembered trip was a visit to Ida Noyes Hall, the wonderful woman's building of the University of Chicago. Another well-remembered trip was made to the model home erected by the Better Homes Bureau.

Of the social and recreational activities of the club, much can be told by the snapshots taken at numerous parties, picnics, and trips. The clubs plan two large social events each semester and the social committees have proved most efficient in arranging the entertainment of large groups, frequently limited only by time and space.

The work of the clubs, however, is not confined to plans for themselves only. The clubs have contributed to a milk fund for needy children; they have made tray favors for the soldiers at Speedway Hospital; and infants' garments for the Red Cross have been made by the girls. The clubs have subscribed to a magazine for the school library.

While there are many hopes not yet fulfilled for the clubs, the members, officers, and sponsors feel that they have made a good beginning and that in the future the home economics clubs of Lake View High School will continue to influence and inspire each other to become worthy members of the school and the community.

GRACE E. GRAY,
President Senior Home Economics Club.
BETTY M. SCHULER,
President Junior Home Economic Clubs.

National Fellowships in Child Development. The committee on child development of the National Research Council announces that applications for the national fellowships to be awarded for the twelve months beginning September 15, 1927, will be received up to January 15, 1927. These fellowships, it will be remembered, are awarded by the Laura Spelman Rockefeller Memorial on recommendation of the committee, whose members are: Bird T. Baldwin, chairman, John E. Anderson, A. V. Kidder, George M. Stratton, and R. S. Woodworth, with L. R. Marston as executive secretary. The aim is "to attract to the field of child development qualified workers who will increase scientific knowledge of the child along various lines and bring this knowledge to parents and others concerned with child life," and the study carried on by the holders should lead to research or resident instruction in child development, to child welfare service, or to various lines of work in parent education.

The fellowships are open to "college graduates of the United States and Canada who have had training in sciences basic to the study of child development. Applicants with advanced degrees or practical experience, other things being equal, are given preference. A limited number of fellowships are available to men, who are appointed only in exceptional cases." Fellows will be assigned to certain institutions offering suitable opportunities in laboratory, clinic, and instruction, at each of which a director appointed by the committee gives guidance to the work. Among present fellows who are members of the American Home Economics Association are Esther McGinnis, Doris Shumaker, Flora Thurston, and Jessie Agnes Winchell.

The basic stipend is $1200 for twelve months, including one month of vacation, and additional allowances are made for travelling expenses from the fellow's residence to the place of study and return and for tuition. Appointments for 1927–28 will be made about March 1, 1927, but as already stated, applications should be handed in by January 15. Requests for application blanks and other communications should be addressed to Dr. R. L. Marston, executive secretary, Committee on Child Development, National Research Council, Washington, D. C.

BOOKS AND PERIODICALS

An Experimental Study of Children: At Work and In School Between the Ages of Fourteen and Eighteen Years. By HELEN THOMPSON WOOLLEY. New York: The Macmillan Company, 1926, pp. 762. $4.00.

What about compulsory education? What about child labor laws? We have heard many arguments on both sides of these questions during the last decade. *An Experimental Study of Children* is a report of an investigation begun fifteen years ago to get facts concerning some of the arguments which educators and manufacturers had been using.

The study was initiated in Cincinnati in 1911 just after the passage of the 1910 Ohio child labor law which required that each child complete the fifth grade before going to work and obtain an employment certificate from the school for specific positions which conformed to certain restrictions of hours and types of work. The experiment was begun in an attempt to determine, if possible, the effect of industrial life upon children who left school and entered industry as early as the law permitted.

In the beginning the study was confined to native-born white children who were leaving school to go to work at fourteen. Seven hundred and fifty-three such children distributed from the fifth to the ninth grade in school were given a series of mental and physical tests annually for five years. Besides these tests, information concerning the social background and industrial histories was obtained. Later, as a control group, 760 children of fourteen years of age who were intending to remain in school were given the same tests for five years. In two years, however, 438 had left school so that an additional 211 children of sixteen were added.

The author is very careful to point out the limitations of the data. She regrets especially the absence of medical examinations and of more adequate social data based on home visits, especially with the school children. The fact that the data were collected from 1911 to 1916 must be taken into consideration, but probably makes little difference in a consideration of the relation of educational factors to the ability of individuals.

It is very difficult to give even a partial summary of the findings which the author presents in 749 pages. Some of the more outstanding facts were: 1. In physical tests the school child was superior to the working child from fourteen to eighteen, with greater differences at fourteen than at eighteen. 2. In mental tests school children proved superior to working children in every test made, with greater differences at eighteen than at fourteen. 3. In social and economic status the school children also showed superiority.

These facts might well be taken as proof of the bad effects of industry on school children did the author not point out that the differences were present in marked form at fourteen years before the children actually entered industry. To her these facts are more significant as indications of why children leave school. The study leads her to the conclusion that the two most important factors in causing children to leave school are the level of ability of the child and the parental attitude, while health and economic status are only rarely determining factors.

Dr. Woolley in the final chapter gives constructive suggestions for changes in school administration and organization in order better to meet the needs of these children. She very definitely puts it up to the schools to do a better educational job for children who otherwise will not benefit from being in school.

A result of the publication of Dr. Woolley's report is that the National Association of Manufacturers have seized upon the findings as propaganda against child labor laws and in

favor of a fourteen-year age limit for compulsory school attendance. This is another case of selection of statistical data on the basis of an *a priori* thesis. Dr. Woolley herself has issued a statement in contradiction. She says in part:

"It is true that the majority of children who leave school under 16 are the mentally inferior group, and failure in school is a more compelling motive than economic pressure in sending them into industry. But the conclusion to which this points is that our school system must be reorganized, not that these children should be allowed to work. . . . . Inferior children mature later than do normal and superior children, and it is doubly important to protect them from undue strain and responsibilities during this period of their most rapid physical and mental growth.

"The report of the National Association of Manufacturers also seems to suggest that I do not regard employment as physically harmful for children under 16. It must be remembered, however, that my study which showed little correlation between physical abilities and employment, was based on the city of Cincinnati alone, where for years there has been a very strict child labor law, rigidly enforced, which controlled the conditions under which children worked. There was also in Cincinnati, when this group of working children left school, a comprehensive system of school medical inspection and before entering employment children were required to have a physical examination and secure a certificate of physical fitness. . . . . Furthermore, ... the results seemed to indicate that school life favors general physical vigor and energy more than working life.

"Because of the very fact that some children are destined for routine factory work it is more important that they continue their education. I do not mean vocational training. . . . But I do mean a type of education that will give them a right attitude towards and interest in their job and that will enable them to enjoy the leisure hours not occupied by the drudgery of earning a living. . . . .

"His [the child's] ability to earn a living is but a small part of his preparation for life and one that for children of limited mental capacity requires little or no training. It is ability to live harmoniously, to be a good member of a family, to take his enjoyment wholesomely, to contribute to community progress, that requires the training. Herein lies the real function of education. If education has failed up to this time to accomplish this result for some group the remedy is not doing away with education. It is in making it more efficient."

LOIS HAYDEN MEEK,
Educational Secretary, American Association of University Women.

Social Work: A Family Builder. By HARRIET TOWNSEND. Philadelphia: W. B. Saunders Company, 1926, pp. 247. $2.25.

Miss Townsend's book should enable those who would take part in adjusting the individual to his group to meet family problems with intelligence and forethought. It gives an excellent insight not only into the purposes and ramifications of and possibilities in social work, but brings out very clearly the interdependence of all services and the need for good cooperation between social worker, nurse, dietitian, home economist, and special teacher in adjusting difficulties.

Among difficulties encountered are mentioned low incomes (often inadequate), unemployment, child labor, bad housing, disease, physical handicaps as the result of accidents, low mentality or low moral standards, all of which must be considered in making plans to help families.

An outline of the diagnosis and treatment of the App family brings out admirably the need of various services in family rehabilitation and cooperation of all interested workers.

Frequent references to the work of the dietitian in adjusting family ills show a growing appreciation in social work of the part food plays in health and economy of the family. Its importance as an aid in preventing some of the family problems is not, however, given the recognition it deserves, but since the value of good nutrition is one

of the last factors in social work to be recognized, it is hopeful as shown by the emphasis already given it.

Social workers have changed their belief that poverty and sickness are inevitable to a faith in the value of prevention and the individual ability to progress.

Throughout the book runs the high aim of social work to make people "fit and strong as a means of releasing human power for the products of mind and soul."

LUCY H. GILLETT,
Association for Improving the Condition of the Poor, New York City.

The Conservation of the Family. By PAUL POPENOE. Baltimore: The Williams & Wilkins Company, 1926, pp. 266. $3.00.

The introduction states that this "book considers mainly the things that an individual cannot do for himself and which society must do for him." It is a complement of Dr. Popenoe's earlier book, "Modern Marriage." The division of subject matter into four parts makes the book an easy one to use as reference or textbook, as well as contributing to clearness for the general reader.

In the first section the institution of the normal family is reviewed briefly. This shows that the monogamous family, in spite of its defects, is best adapted to the development of modern mankind but that both men and women need further education in order to understand each other better and to become more intelligent parents.

Various factors interfering with the functioning of the family are discussed in the second part of the book. The chapter on birth control is thought-provoking because it presents the subject from the viewpoint of the biologist rather than that of the propagandist. No specific remedy for existing conditions is given but it is expected that a general cure will be effected when a complete program for the conservation of the family is in vogue.

The third division of the book, "Means of Social Control," emphasizes the fact that the day of individualism is past, for all of man's thoughts and actions influence society directly or indirectly. A perfect world is not to be expected. But can this one be made a little better?

In place of old traditional customs, society should adopt the new discoveries being proved constantly by scientific research. The changes may be encouraged by making social aims much more attractive than anti-social aims; by creating a community where children will absorb unconsciously the right ideals; and by the best education both at home and in school.

One quite agrees with the author in saying that marriage ought to promote the all-around development of both husband and wife; that love is an art which requires thought, time, and a spirit of unselfishness for its best nurture; and that definite education for family living begins at home in the early months and years of the child's life. It is true that some women, dissatisfied with the physical drudgery of homemaking, forget that men and women in the office or laboratory or shop uncomplainingly perform many uninteresting tasks as part of their daily work. However, if the home is to survive, ways and means of conserving its spiritual and intellectual life for both parents and children must be worked out.

The book's last section states that the fundamental evil of family life is due to mismating. This may be remedied by greater care in selecting mates, by preparation for parenthood, and by making it economically possible for all families to have children. The concluding paragraphs are optimistic but recognize that intelligent, concerted effort is required to bring about the desired improvements.

Although possibly not agreeing with some of the author's statements and suggestions, the reader finds in the book a sympathetic presentation of the subject. It is disappointing that there is no solution for all homemaking problems but such a panacea, doubtless, is only utopian.

DOROTHEA BEACH,
Institute for the Coordination of Women's Interests, Smith College.

BOOKS RECEIVED

Fundamentals of Dietetics. By BERTHA M. WOOD and ANNIE L. WEEKS. Philadelphia: W. B. Saunders Company, 1926, pp. 241. $1.75.

A textbook designed to meet the needs of the training school of average size, with laboratory lessons planned for classes of twelve student nurses. Two courses are included: the first, or preliminary one, outlining fourteen lectures and laboratory periods on the general principles of dietetics; and the second, of ten lessons, dealing with diets for special conditions. The approximate composition and energy value of 100 gram portions of commonly used food materials are given in a special food value chart.

Camp Cookery. By HORACE KEPHART. New York: The Macmillan Company, 1926, pp. 154. $1.00.

A handy volume of practical information and suggestions for the camper by an experienced woodsman and writer. There are chapters on provisions, utensils, and fires, besides directions for preparing different kinds of foods. The recipes are ingeniously grouped according to the time they take, with abbreviations to show in which ones eggs, butter, and milk are necessary or desirable.

The Edgewater Beach Hotel Salad Book. By ARNOLD SHIRCLIFFE. Chicago: The Hotel Monthly Press, 1926, pp. 265. $5.00.

A handsomely illustrated volume of hotel recipes for salads and salad dressings to which are added a few quotations in praise of salads and an interesting list of books on food and good eating.

Enzymes. By SELMAN A. WAKSMAN and WILBURT C. DAVISON. Baltimore: The Williams & Wilkins Company, 1926, pp. 364. $5.50.

A concise compilation of available technical information on the various phases of the subject, by the associate professor of soil microbiology at Rutgers University and the associate professor of pediatrics at Johns Hopkins University School of Medicine. The bibliography cites author, title, and place of publication of some thirteen hundred references to literature. A system of cross references and a well-arranged index add to the usefulness of the book.

Cargoes and Harvests. By DONALD CULROSS PEATTIE. Maps by BEATRICE SIEGEL. New York: D. Appleton and Company, 1926, pp. 311. $2.50.

A skillful, attractive compilation of information regarding the development of the world-wide interchange of certain commodities of plant origin and their vital and increasing importance in our civilization. Delightful maps in the antique style indicate the habitats of the various plants and the statistical facts are interpersed with suggestive lore and quotations. Likely to prove a refreshing change among the reference volumes on such topics.

The Little Kitchen Garden. By DOROTHY GILES. Boston: Little, Brown, and Company, 1926, pp. 98. $1.75.

An attractive addition to the "Little Garden Series" dealing with vegetable and fruit growing on small places with "neat" and "thrifty" as prominent adjectives and attention to the possibilities of beauty combined with utility.

Needlecraft and Psychology. By MARGARET SWANSON. New York: Longmans, Green, and Company, 1926, pp. 95. $2.75.

A method devised by a teacher in the Glasgow School of Educational Needlecraft in which needlecraft is used to develop the children's esthetic appreciation.

Interior Decoration for the Small Home. By AMY L. ROLFE. Revised edition. New York: The Macmillan Company, 1926, pp. 169. $2.00.

A well-known handbook first issued in 1917 and now revised to bring it up to date as regards prices and to permit of new illus-

trations typical of recent developments in taste and available materials.

Subject Matter in Health Education. By RUTH STRANG. Teachers College, Columbia University, Contributions to Education No. 222. New York: Bureau of Publications, Teachers College, Columbia University, 1926, pp. 108. $1.50.

A study of courses and textbooks used in health education, undertaken to learn wherein they agree and differ and what statements of subject matter appear most desirable for general adoption. Definite agreement was found only in the importance of facts about food, cleanliness, and disease. Many of the statements studied were poor in form if not unsupported or misleading, and the organization of material often lacked adaptation to the child's experience, was expressed illogically and in poor English, or failed to bring out the relative values of facts presented.

How To Construct the True-False Examination. By CHARLES CONRAD WEIDEMANN. Teachers College, Columbia University, Contributions to Education No. 225. New York: Bureau of Publications, Teachers College, Columbia University, 1926, pp. 118. $1.50.

The report of a study made by the associate professor of education at the University of Nebraska under a grant from the Commonwealth Fund to the Bureau of Collegiate Educational Research of Columbia University, in the hope of demonstrating how the true-false statement may be improved as to both administrative convenience and content.

Mental Tests. Their history, principles, and applications. By FRANK N. FREEMAN. Boston: Houghton Mifflin Company, 1926, pp. 503. $2.40.

A pioneer attempt to bring into one not too technical handbook the historical development of mental tests, the technique and theory of their formation and application, and their uses in such fields as education, vocational guidance, and delinquency, with final chapters on the interpretation of intelligence tests and the nature of intelligence.

A Survey of the Public Educational System of Porto Rico. Made under the direction of the International Institute of Teachers College, Columbia University. New York: Bureau of Publications, Teachers College, Columbia University, 1926, pp. 453. $3.50.

The report of a survey authorized by the University of Porto Rico and carried out for the International Institute under the direction of Dr. Paul Monroe. The importance of health education is emphasized and the part which home economics can play in promoting it. Home economics in the secondary schools is briefly but sympathetically discussed.

Land Planning in the United States for the City, State, and Nation. By HARLEAN JAMES. Preface by Richard T. Ely. Introduction by Albert Shaw. New York: The Macmillan Company, 1926, pp. 427. $5.00.

An important contribution to the scanty American literature of this subject by the executive secretary of the American Civic Association, who knows at first hand many of the conditions and projects described. There are abundant quotations from significant documents; at the end of each chapter is a brief list of suggested readings. Sections that will make good reference reading for certain phases of home economics are those on early farm layouts, on recreational facilities, on the functions of streets, and on zoning.

The Financing of Social Work. By ARTHUR W. PROTECTER AND ARTHUR A. SHUCK. With a foreword by MORTIMER L. SCHIFF. Chicago: A. W. Shaw Company, 1926, pp. 260. $3.00 in buckram; $4.00 flexible.

A well-organized account of the recent development of private social service, and the need for careful business organization in the solicitation and use of funds, with suggestions for judging the efficiency of an

organization and for methods of securing public support, with special chapters on drives, folders, letters, and other devices. The authors are warm advocates of the community chest. The appendix includes statistics of organizations and contributions in different cities and a useful list of 151 national social service agencies.

The Public and the Motion Picture Industry. By WILLIAM MARSTON SEABURY. New York: The Macmillan Company, 1926, pp. 340. $2.50.

An interesting presentation of the development and methods of the motion picture industry and a discussion of the social effects of its tendencies under its present highly centralized organization, by the former general counsel to the Motion Picture Board of Trade and the National Association of the Motion Picture Industry. In his opinion adequate control can come only by the education of the public to the facts of the case, many of which it does not now realize. A significant book for all concerned with the social and educational aspects of moving pictures.

Education and the Good Life. By BERTRAND RUSSELL. New York: Boni and Liveright, 1926, pp. 319. $2.50.

One of the most widely-discussed books of the year by a brilliant physicist and socialist who now turns his mind to the aims of education and the question of how those aims are to be reached.

The Revolt of Modern Youth. By Judge BEN B. LINDSEY AND WAINWRIGHT EVANS. New York: Boni and Liveright, 1925, pp. 364. $3.00.

A much-discussed volume giving the observations and impressions of Judge Lindsey during his 26 years with the Denver Juvenile Court. His major contention is that whether their elders admit it or not, young people do not accept the same standards of conduct that their parents did, but are working out new ones more in harmony with present social conditions; and unless the elders put their prejudices aside and by sympathetic understanding win the confidence of the children, they forfeit their opportunity to give the latter the benefits of their experience.

Educating for Responsibility. By members of the faculty of the South Philadelphia High School for Girls. New York: The Macmillan Company, 1926, pp. 310. $1.40.

The fruit of three years' experimenting with the Dalton plan in a large city high school. The first four chapters, by Lucy L. W. Wilson, describe the general principles and practice of the plan, while the other eight and the outlines given in the appendix deal with its application in special subjects, and are written by teachers of those subjects. Home economics is not represented, but the general discussion and certain of the suggestions made for social sciences and science would be helpful in studying the possibilities which the Dalton plan has for home economics.

The Real Boy and the New School. By A. E. HAMILTON. New York: Boni and Liveright, 1925, pp. 386. $2.50.

A schoolmaster with the progressive method and a real understanding of boys writes helpfully for those parents and others who stand perplexed before the problems of modern youth.

Children's Interests in Reading. ARTHUR MELVILLE JORDAN. Revised edition. Chapel Hill, N. C.: University of North Carolina Press, 1926, pp. 103. $1.50.

The author presents a revised edition of a volume published in 1921, including data from more recent studies. The interests of boys and of girls as indicated by their choice of books and magazines, determined first by means of investigations in libraries, and second by questionnaires, are differentiated. Boys are found to choose stories of adventure, fiction, and the Mark Twain variety of humor. Girls have a decided preference for fiction. A final chapter interprets and attempts to explain the interests manifested.

Abstracts of Theses. Science Series, Volume II. Submitted to the faculties of the graduate schools of the University of Chicago for the degree of doctor of philosophy, August, 1923, to June, 1924, with abstracts of some theses of an earlier date. Chicago: University of Chicago Press, 1926, pp. 396. $3.00.

Theses from the Ogden Graduate School of Science, including two from the department of home economics in the School of Education, "Urinary Excretion of Organic Acids and Its Variation on Different Diets, with Observations on the Creatinine Excretion of Women," by Laura Ida McLaughlin and "Observations on the Basal Metabolism, and the Urinary Creatinine, Creatine, and Uric Acid of School Children," by Jennie Tilt.

International Health Year-Book, 1924. Reports on the Public Health Progress of Twenty-Two Countries. Geneva: League of Nations, 1925, pp. 501. $3.00.

The first of a proposed series of progress reports issued by the Health Secretariat of the League of Nations which indicates clearly the rapid development of public health activity in the nations concerned. The data are arranged by countries and in most cases include among others sections on maternity and child welfare, mental hygiene, housing, and food control.

In Darkest London. By MRS. CECIL CHESTERTON. New York: The Macmillan Company, 1926, pp. 255. $1.75.

The observations of an educated, well-to-do woman who spent a week or more in the London streets, under an assumed name, in shabby clothes, and without money or references. She found that without references it was impossible to get steady employment; that shabby clothes are often a bar to opportunity; that a pleasant, cheerful manner is more helpful than complaints; that well-to-do women show less sympathy than men to the homeless woman; and that the destitute and the criminal rarely mingle. She advocates the establishment of small, homelike, self-supporting shelters where a night's lodging and a chance to wash can be obtained "with no questions asked," and also of depots for the sale of old shoes, the lack of decent footgear causing some of the greatest suffering to the person forced to walk the streets.

Fields of Work for Women. By MIRIAM SIMONS LEUCK. New York: D. Appleton and Company, 1926, pp. 349. $2.50.

A book intended primarily for girls and women who have completed a year or two of high school, giving general descriptions of the type of openings and qualifications for different lines of work, with some suggestions as to where and how training may be obtained.

Commercial and Industrial Organization of the United States. Revised edition. Washington, D. C.: Department of Commerce, 1926, pp. 191. 60 cents.

A new edition of a directory giving the names, addresses, number of members, and dates of meeting of about nine thousand national, international, interstate, and local organizations arranged alphabetically, by classes of commodity or service, and by geographical distribution. A handy reference book for those concerned with national aspects of the various industries and lines of commerce.

Guidance for College Women. By MABELLE BABCOCK BLAKE. New York: D. Appleton and Company, 1926. pp. 285. $2.50.

Adventure in Habit-Craft. By HENRY PARK SCHAUFFLER. New York: New York: The Macmillan Company, 1926, pp. 164. $2.00.

Textiles. By MARY SCHENCK WOOLMAN AND ELLEN BEERS MCGOWAN. New York: The Macmillan Company, 1926, pp. 572. $3.00.

Table Service for the Hostess. By EDNA SIBLEY TIPTON. New York: D. Appleton and Company, 1926, pp. 129. $1.50.

ABSTRACTS FROM PERIODICALS

FOOD AND NUTRITION

Daubney, C. G., and Zilva, S. S. The action of reducing agents on the anti-scorbutic factor inactivated by aeration. *Biochem. Jour.*, **20**, 519 (1926).

On the assumption that the destruction of vitamin C by aeration is a simple oxidation process which may be reversed by reduction, decitrated lemon juice which had been inactivated by aeration was subjected to treatment with various reducing agents including hydrogen in the presence of platinum black as a catalyst, nascent hydrogen obtained by the action of citric acid on magnesium, and electrolysis. In no case did the inactivated lemon juice acquire antiscorbutic properties as the result of hydrogenation.

Chapin, H. D. The production and handling of human milk. *J. Am. Med. Assocn.* **87**, 1364 (1926).

A description of the system developed at the Children's Welfare Foundation in New York for the collection and distribution of human milk. Data are included on the specific gravity and the fat, protein, and lactose content of 44 different samples of pooled milk and on keeping qualities of the milk.

Grant, A. H., and Goettsch, M. The nutritional requirements of nursing mothers. The effect of a deficiency of the antirachitic vitamin only, in the diet of the mothers upon the development of rickets in the young. *Am. J. Hy.* **6**, 211 (1926).

That the diet of the mother is an important factor in increasing or decreasing the resistance of the offspring to the effects of a deficiency of the antirachitic vitamin in their diet has been demonstrated by keeping female rats in darkness on diets adequate except for being low in vitamin D and comparing successive litters from the same animal.

With each successive litter there was an increase in susceptibility to rickets, in the rapidity with which the disease developed and in the severity of the lesions. By increasing the content of antirachitic vitamin in the mothers' diet through cod-liver oil or an abundance of milk the resistance of the succeeding litters was again increased. On a diet rich in vitamin D the vitamin reserves of the mother were found to be sufficient to produce four successive litters showing normal resistance to rickets.

Grant, A. H. The nutritional requirements of nursing mothers. The effect of lowering both the antirachitic vitamin and calcium in the diet of the mother upon the development of rickets in the young. *Am. J. Hy.* **6**, 228 (1926).

Following the plan of the foregoing study, the effect of a deficiency of the antirachitic vitamin and of calcium upon the resistance of the young to rickets was shown to be even more marked than of a deficiency in vitamin D alone. As a result of the double deficiency the resistance to rickets was almost completely broken down in the fourth generation and the progress of the disease was very rapid.

Marine, D. Simple goiter and its prevention. *J. Am. Med. Assocn.* **87**, 1463 (1926).

A brief summary of modern views concerning the cause of simple goiter and the best means for its prevention. "One can say that the factors which cause simple goiter center about the supply of iodine and the needs, normal and abnormal, of the thyroid gland for iodine. Supplying this element in amounts that can be considered as roughly approximating the physiologic needs of the body has resulted in completely controlling the disease both in man and in animals."

Kleitman, N. Basal metabolism in prolonged fasting in man. *Am. J. Physiol.* **77**, 233 (1926).

During a 41-day fast the body weight of the subject fell from 65.5 to 48.9 kg., a decrease of 25 per cent, and the basal metab-

olism from 1.517 to 978 calories per 24 hours, from 24.1 to 19.5 calories per kilogram of body weight, and from 904 to 639 calories per square meter of body surface, the percentage of losses being 36, 19, and 29 per cent respectively. When the subject resumed eating there was an immediate response in an increase in the metabolic rate, the rate of increase varying with the composition of the diet. A high protein, high calorie diet had the most stimulating effect on the basal metabolism.

Fearon, W. R. A study of some biochemical colour tests. III. Colour reactions associated with vitamin A. *Biochem. J.* 19, 888 (1925).

Two color tests for vitamin A are described. The first is a modification of the sulfuric acid test of Drummond and Watson. One gram of phosphorus pentoxide is added to 5 cc. of the oil to be tested, either undiluted or dissolved in dry petroleum ether in a perfectly dry tube, or a drop of the oil is allowed to fall on a small pile of phosphorus. In either case a purple color develops if the oil contains vitamin A.

The second test consists in placing 1 or 2 drops of the oil or a dry ethereal solution of the substance to be tested in a dry 10- or 22-cc. flask and adding a few dry crystals of pyrogallol and 5 cc. of a 12 per cent solution of trichloroacetic acid in dry petroleum ether. On shaking the flask a bluish pink color develops, which changes to a deep rose and reaches its maximum intensity in from 15 to 20 minutes. The test is said to be positive with all substances known to contain vitamin A and negative with aerated oils, irradiated cholesterol, and non-irradiated and irradiated hardened fats.

Rosenheim, O, and Drummond, J. C. A delicate color reaction for the presence of vitamin A. *Biochem. J.* 19: 753 (1925).

A color test, which is said to be characteristic for vitamin A and to have the advantage over a sulfuric acid test previously described in that the color persists for from 5 to 10 minutes, is given in detail. Of various reagents which can be used, including arsenic chloride, dimethyl sulfate, trichloroacetic acid, acetyl chloride, and benzoyl chloride, arsenic trichloride is considered the most satisfactory. On adding 1 cc. of pure arsenic chloride to 1 drop of cod-liver oil and shaking the test tube, the oil dissolves immediately to form a clear blue solution turning to purple. The limit of sensitivity to the test is said to be reached with a dilution of cod-liver oil containing 0.05 mg. of the oil. The cholesterol-free fraction of saponified cod-liver oil gave a positive test in a dilution of 1:2,000,000 but irradiated cholesterol gave a negative test, thus suggesting the possibility of differentiating vitamin A from vitamin D by this test.

As a quantitative test preliminary experiments have shown that even a rough colorimetric comparison with a suitable standard yields results of greater accuracy than those obtainable by the laborious animal feeding tests. Suitable color standards for the comparison are described.

Carr, F. H., and Price, E. A. Color reactions attributed to vitamin A. *Biochem. J.* 20, 497 (1926).

In attempts to improve the technique of the Rosenheim-Drummond color test for vitamin A it was found that the color reaction with trichloroacetic acid is apparently due to impurities in the acid. With arsenic tricholoride there was a marked loss of sensitiveness on dilution with chloroform or other solvents. Color reactions consisting chiefly of blue with varying proportions of red were given by antimony trichloride in chloroform, stannic chloride in chloroform, anhydrous aluminum chloride, silicon tetrachloride, and phosphorus oxychloride. Of these antimony trichloride proved the most satisfactory. For the qualitative test 2 cc. of a 30 per cent solution of this reagent in chloroform is added from a burette to 0.2 cc. of a 20 per cent solution of the oil in chloroform, and the color intensity of the liquid is at once measured against standard glasses in a Lovibond tintometer. The results obtained with two samples of cod-liver oil corresponded closely to those obtained with the same oil in feeding tests with rats.

Chick, H., Korenchevsky, V., and Roscoe, M. H. The difference in chemical composition of the skeletons of young rats fed (1) on diets deprived of fat-soluble vitamins, and (2) on a low phosphorous rachitic diet, compared with those of normally nourished animals of the same age. *Biochem. J.* 20, 622 (1926).

A comparison is reported of the composition of the bones of young rats on a complete diet, a diet lacking in vitamins A and D, but adequate in other respects, and a low-phosphorus, high-calcium, rickets-producing diet containing a moderate supply of vitamin A. Compared with the values for the animals on a normal diet, the bones of those on the diet deficient in fat-soluble vitamins alone were low in fat and in ash (A) and normal in the amount of organic material, cartilage, and connective tissue (R). The ratio A:R varied from 0.9 to 1.2 as compared with 1.5 for the normal animal. The bones of the rats on the low-phosphorus, high-calcium diet were very low in ash, high in water, and slightly high in the value R. The A:R ratio varied from 0.4 to 0.8, while in the bones of rats receiving cod-liver oil in addition to this diet the A:R ratio was 1. "If chemical examination is used in the diagnosis of rickets the best criterion of defective calcification is given by the value of the A:R ratio or the ratio of the amount of ash to the amount of organic material contained in the fat-extracted bone."

Willimott, S. G., and Moore, T. Fearon's "pyrogallol" test as a possible basis for the estimation of vitamin A. *Biochem. J.* 20, 869 (1926).

A critical examination of the second of the foregoing tests has led to certain modifications, chief of which are the use of resorcinol in place of pyrogallol and of benzoyl peroxide to hasten the color development. The quantitative technique finally adopted consisted in dropping various quantities of the oil into test tubes and adding to each an amount of an ethereal solution of resorcinol equivalent to 0.5 per cent of the oil followed by 5 cc. of a 10 per cent solution of trichloroacetic acid in toluene and 0.5 cc. of a saturated solution of benzoyl chloride in toluene. After about two hours the colors are compared against a solution of magenta toned with methylene blue. In qualitative tests positive results (a carmine color) were obtained with various cod-liver oils, beef suet, butter fat and egg yolk fat, and negative with olive oil, linseed oil, palm kernel oil, and "ostelin" (a commercial preparation rich in vitamin D).

Plimmer, R. H. A., and V. G. A square meal. *Hygeia* 4, 611 (1926).

A novel scheme for the graphic representation of complete and incomplete diets is explained and illustrated. A balanced diet supplying all the material needed by the body is represented by a circle enclosed in a square. The upper half of the circle represents the calories supplied by fat and carbohydrates and the lower half water and salts. Three of the corners of the square represent vitamins A and D, B, and C, and the fourth protein. The absence or shortage of these constituents of the diet can be shown by cutting off the corners and an excess of any constituent inside or outside the circle by appropriate enlargements.

Guerrant, N. B. A vacuum extractor for biochemical use. *Ind. Eng. Chem.* 18, 1090 (1926).

A vacuum extractor said to be particularly useful in the purification of food materials to be used for basal diets in nutrition studies is described and illustrated. "The flask is of the thick-walled Pyrex balloon type, having 10 per cent greater capacity than the extraction chamber. The extraction chamber consists of a sidenecked bell jar containing a perforated desiccator plate and covered with a well-fitting desiccator top. The two ground surfaces are sealed with a mixture of equal parts of vaseline and paraffin previously melted and well-mixed. The condenser should be short, thick-walled, and have a maximum cooling surface. The Davies condenser serves the purpose very satisfactorily. The exhaust tube should be as far as possible from the path of the condensed vapor."

S. L. S.

CHILD DEVELOPMENT AND PARENTAL EDUCATION

Lawrence, Fanny E. A day in an English nursery school. *Amer. Childhood* **12**, 19 (1926).

Stowage, the first English nursery school, offers to a large number of children an excellent environment in a crowded London district. The shelters which accommodate fifty children each are equipped with bathrooms as well as lavatories and cloak rooms, and are open on one side; the gardens are planted on the child's scale; there are hutches for pets.

Nice, M. M. On the size of vocabularies. *Amer. Speech* **2**, 1 (1926).

In a study of the size of spoken and understood vocabularies, it is shown that the average for both adults and children is much larger than that traditionally reported, being approximately 1,000 words for 3-year old children, 4,000 for second grade, 20,000 for college students, and 70,000 for studious men. Conversation might be enriched by adding understood words to the spoken vocabulary.

Hodson, Mrs. C. B. S. The value of eugenics in the work of maternity and child welfate centers. *Child*, London, **27**, 1 (1926).

Experienced health visitors recognize that the really incompetent parent is not educable, and that inherent defects in the parental stock inevitably appear in the children. Should infant welfare work be abandoned since through the reduction of the infant death rate the surviving individual, with an inherent tendency to disease, remains, dependent, suffering, ineffective? No, for environment, through its control of selection, is of greater importance than heredity. By keeping before the community a decent standard of living, the health worker may bring about the limiting of the size of families among the "less fit."

The Eugenic Society (England) of which the author is secretary, proposes the prevention of reproduction of "definitely defective types" through segregation or voluntary sterilization, and limitation of families among the "less fit" through instruction in conception control.

Special training for parents. A new phase of adult education. *Child Study* **4**, No. 1 (1926).

The October number is given over to articles on different phases of this general subject.

Mateer, Florence. What the kindergarten can do for the backward child. *Childhood Educ.* **3**, 104 (1926).

The backward child, within certain limits, should be accepted in the kindergarten and helped to adapt himself to the social group, which he needs even more than does the normal child. The kindergarten teacher has a great opportunity and responsibility in directing the adjustments made by children in their first year of school, when their problems may be analyzed and corrected, or may be submerged to become permanent handicaps.

Cox, Catherine M. Elementary education of young geniuses. *Childhood Educ.* **3**, 109 (1926).

Gifted children should be taught by methods adapted to the individual, with achievement requirements in proportion to their ability, continual guidance into broad channels, and stimulation to solve the present problems and try harder ones.

Horn, Madeline D. The thousand and three words most frequently used by kindergarten children. *Childhood Educ.*, **3**, 118 (1926).

A study of the vocabulary of kindergarten children, obtained by recording verbatim conversations, raises the question whether teachers supply a curriculum rich enough to develop adequately the child's knowledge and use of words.

Johnson, Harriet M. The education of the nursery school child. *Childhood Educ.* **3**, 135 (1926).

Adequate growth for the nursery school child depends upon opportunities for motor,

sensory, and social experiences. To serve these needs the nursery school must avoid static materials, provide things the child can use in his own way, through which he can acquire skills, and with which he can dramatize his own experiences. Social relationship should be kept at a suitable age level. The nursery school teacher should be aware when the process of development is adequate and profitable, when to offer help, new materials, or experiences. "She must evaluate education by the opportunities it gives for increase in harmony and integration of the effective life, and for the exercise of the creative impulse in dealing with environment."

Kilpatrick, William H. New ideas on discipline supplant old methods of punishment. *Children* **1**, No. 2, 11 (1926).

Constructive character building must supplant the compulsory obedience formerly demanded of children. Habits of self-control and respect for others can be built up through practice, if success brings satisfaction and failure regret. Threats of punishment and promise of reward are poor props for conduct. Moreover punishment may bring regret, not for doing what was forbidden but for being caught, or fasten dislike upon the punisher, or create a feeling that injustice was done.

Richardson, Frank H. Tantrums. *Children* **1**, No. 2, 16 (1926).

Tantrums, when due to some fault in the child's environment rather than to a physical cause, are used by the child as a means of getting his own way, a reaction to overfatigue, an imitation of parental lack of self-control, or a means of attracting attention. Parents need have no fear of physical injury to the child during a tantrum. When the child finds that this method fails to bring results he will abandon it. To help break down a tantrum habit, provide acceptable ways of attracting attention, absorbing, constructive work, legitimate praise; disregard occasional lapses; and give sympathetic understanding.

Stiebeling, Hazel K. Training the appetite. *Children* **1**, No. 2, 40 (1926).

Suggestions for training children to build up good food habits, with schedules and menus for different ages.

Kenworthy, Marion E. Psychoanalytic concepts in mental hygiene. *Family* **7**, 213 (1926).

A discussion of the psychoanalytic method of approach to behavior problems of childhood, and of the author's "ego-libido method" of evaluation and interpretation of the emotional, physical, intellectual, and social experiences of the child. The author believes that the psychoanalytical school has contributed to mental hygiene the means of understanding the root beginnings and processes of neuroses, psychoses, delinquency, criminal careers, and other problems of adjustment; that through this knowledge neuroses and psychoses will be diminished and behavior and delinquency disorders controlled and prevented, and that with further progress we may even look to the disappearance of mental illness.

Cooper, Clara Chassell. Habit formation in character. *J. Natl. Educ. Assocn.* **15**, 253 (1926).

The classroom teacher has a great opportunity for character training through the formation of right habits in her pupils. Inventories of habits are available, four of which are briefly discussed. The relative importance of various habits has been evaluated and tests for measuring progress devised.

Habakkuk, E. G. A statistical study of the physique of elementary school children with special reference to their mentality. *J. Hy.* [London] **23**, 295 (1926).

This study was made upon a large number of children in the elementary schools of Barry, South Wales. It deals first with physical growth; second, with physique and with mentality. Comparisons made of the mean heights and weights of boys and girls

at different ages, to determine the variations and rates of growth, show that boys are both heavier and taller than girls up to 10½ years. At 12½ years the reverse is true. The rate of growth varies at different ages with both sexes, with a slackening between 6½ and 7½ years, due probably to development of permanent dentition and to school entrance. Children of a given age differ more widely in weight and height as the age advances, with greater differences among girls than boys. Weight differs more than height. American children present greater regularity in growth than British, and are both taller and heavier at a given age. American children of today appear to be heavier than those of the past, British children somewhat lighter.

In regard to the relation between physique and mentality, the Barry physical data resemble those of England and Wales, but are inferior to those of the United States; what is true of Barry children can be taken to be generally true of the children of England and Wales as a whole; physique varies in early childhood, the dispersion increasing with age; nutrition controls this dispersion.

Improvement in the nutritional status of children would provide more favorable conditions for their mental development.

Anderson, John E. The attendance of nursery school children. *School & Soc.* **24**, 182 (1926).

A careful study of the attendance in two groups of nursery school children, transported in taxicabs, shows an average daily attendance of 68 per cent, unvarying in spite of weather conditions, time of year, or day of the week. There is a slight tendency toward greater attendance among older children, but no relationship between the attendance of children and the occupational class of parents, or the presence of older school children in the family. The most frequent causes for absence were colds, otitis media, measles, and chickenpox.

Bayley, Nancy. Performance tests for three, four, and five year old children. *Pedagogical Semi. & J. Genet. Psych.* **33**, 435 (1926).

A description of eight new tests for children of these age groups, which hold the interest of the children and may be given in 20 minutes. They correlate .90 with the Stanford Binet measure of mental ability. Suggestions are made for possible alterations before the tests are standardized.

Reeve, Margaretta W. The parents' responsibility for moral education. *School & Soc.* **24**, 158 (1926).

A plea for parents to recognize that moral training belongs fundamentally to the home. It is achieved through observation and practice. The school should supplement the home training by teaching group morality. There should be close cooperation between home and school, with a common standard as the basis of precept and example of parents and teachers.

Stadtmuller, Ellen S. The preschool care of the child. *West. Dietitian* **1**, No. 3, 33 (1926).

A summary of the needs of the preschool child which emphasizes adequate rest, good posture, well-fitted clothing and shoes, an abundant and well-selected dietary, opportunity for play, fresh air, and for self-expression. Nursery schools add the opportunity to live as a member of a social group. Frequent medical examinations give assurance that the child is physically fit. Immunization against certain diseases is now possible and all preschool children should have this protection.

H. R. H.

NOTES AND CLIPPINGS

Progress Under the Sheppard-Towner Act. "The Promotion of the Welfare and Hygiene of Maternity and Infancy" is the title of U. S. Department of Labor, Children's Bureau Publication No. 156, which describes the activities undertaken under the so-called Sheppard-Towner Act from its passage in November, 1921, to July, 1925, both in the separate states and through the federal administrative staff. The broad educational value of the work is further indicated by the lists of popular articles, charts, and films which the Children's Bureau has prepared and uses to promote better understanding of maternal and infant hygiene.

British Medical Association. Annual public health lectures on health and disease are to be inaugurated by this Association according to a despatch to the *New York Times*. The decision has been made in response to public pressure and has special interest in that the Association has in the past held that popular lectures on medical subjects were unethical.

Memorial to Beaumont. A monument to Dr. William Beaumont, the army surgeon, famous for his study of gastric digestion through an accidental fistula in the abdomen of the Canadian trapper, Alexis St. Martin, has recently been unveiled in Lebanon, Connecticut.

Pan-American Notes. The seventh national exposition of native weaving done in Argentine homes opened in Buenos Ayres last June under the auspices of the Patriotic League of Argentina and according to the *Bulletin* of the Pan American Union included blankets of fine vicuna wool, silk shawls, blankets, and rugs of Incan character, carpets, pouches of wool and cotton, heavy blankets of vicuna and of llama wool, and laces.

The same magazine reports that a correspondence course in hygiene is being developed in Chile by the Department of Sanitary Education for the benefit of primary teachers.

Cellulose for Sausage Skins. The fibers pulled off cotton seeds and treated with chemicals as in the viscose process is the source of a new substitute for the animal coverings for sausages, says *Science News Letter*. A practicable method of manufacture has been developed after several years' research at the Mellon Institute, and the new product is moderate in price, and easy to handle, and will keep indefinitely. The inventors declare that sausages packed in cellulose containers are "perfectly comestible and may be cooked in any manner and eaten with no difficulty."

Nutritive Value of Orange Juice. Valuable papers published elsewhere have recently been made available for general distribution by the educational department of the California Fruit Growers Exchange, Los Angeles. One is a four-page mimeographed abstract from the *American Journal of Diseases of Children*, 1923, Vol. 26, page 337, entitled "A Comparison of the Value of Milk and Oranges as Supplementary Lunch for Underweight Children," by Margaret S. Chaney. The other is a reprint of two articles and an editorial from the *Western Dietitian* for June, 1926. One article, "The Growth-Stimulating Influence of Orange Juice," by Margaret S. Chaney and Katharine Blunt, is a semi-popular version of a paper which was read before the American Home Economics Association in July, 1925, and published in the *Journal of Biological Chemistry* (see JOURNAL OF HOME ECONOMICS, 1926, Volume 18, page 335). The other article is a brief discussion by Dr. Howard F. West of the value of oranges to the diabetic child.

NEWS FROM THE FIELD

GENERAL

American Association for Organizing Family Work. A system of inter-city conferences has been developed as an integral part of the work of the Association. During the last year twelve such groups, which include general secretaries, staff workers, volunteers, and board members, found the interchange of opinion which comes at such meetings profitable in widening horizons and enriching the content of local work.

American Gas Association. At the annual convention held in October, 1926, the Association passed resolutions regarding gas ranges and flexible gas tubing, recommending that no member company sell any which do not bear the seal of approval from the Applicance Testing Laboratory of the Association, which works in cooperation with the U. S. Bureaus of Standards and Mines and Public Health Service. It further advocated a policy which will make the resolutions effective as to both gas companies and manufacturers of equipment.

American Homes Congress. The meeting scheduled for Des Moines, Iowa, in November, 1926 (see August JOURNAL) has been postponed to March, 1927.

Association of Land Grant Colleges. The section on home economics held four sessions during the annual meeting of the Association in Washington, November 16 to 18, at which general topics and presiding officers were as follows: Minimum requirements for a degree in home economics, Dr. Margaret M. Justin; Curriculum making, Agnes E. Harris; Résumé of newer work, Mary L. Matthews; Providing for growth, Edith P. Chace. Lita Bane was one of the speakers under the first topic, and Anna E. Richardson under the second. Ava Milam, Oregon Agricultural College, was elected chairman for the coming year, and Alba Bales of North Dakota, secretary.

Battersea Polytechnic. Many tributes were paid to Miss Marsden, who recently retired after more than twenty-five years of service as head of the Domestic Science Department and Training College for Teachers of Domestic Science. She is succeeded by Miss Helen Masters, who holds the degree of B.Sc. of the London University and the King's College Post Graduate Diploma in Household and Social Science, and is a member of the Faculty of Science of the University of London. She has been for the past 15 years a member of the staff of the Household and Social Science Department of King's College and has acted as Examiner in Domestic Science for the University of London. In addition she is joint author with Professor Tinkler of "Applied Chemistry," the second volume of which was reviewed in the JOURNAL last June.

Home Economics in Business. The Illinois Home Economics Association is the first state association to establish a home economics in business section. Marye Dahnke of the Kraft Cheese Company is the chairman and Jean Rich of the Institute of American Bakers is the secretary. Mary Barber gave an illustrated talk before the Association in Springfield, October 23, on "Services offered to the home economics teachers by the business world." Mary Reed Hartson is leaving Chicago permanently, and Aubyn Chinn was elected to succeed her as chairman of the Chicago group of the Section.

Ruth Leone Rutledge leaves the Davis Baking Powder Company to succeed Mary Reed Hartson as director of home service for the Jewel Tea Company.

Katharine Fisher, director of Good Housekeeping Institute, was the guest of the Chicago group on November 15. Mary Barber also sat at the speakers' table.

Marie Sellers became associated with the Postum Cereal Company on November 1.

Mary Jean Hart is leaving Iglehart Brothers to establish a department of home economics for the Aluminum Goods Manufacturing Company.

Edith Barber has been retained as home economics advisor for the advertising firm of Barston, Durstine, and Osborn.

National Hotel Exposition. The program of the eleventh exhibit at the Grand Central Palace, New York City, November 8 to 13, included a series of brief practical talks on hotel management under the chairmanship or Professor H. B. Meek of Cornell University and a meeting of hotel women, presided over by Mrs. Lois Pierce Hughes, chairman of the Woman's Committee. The fifty-eighth exhibit of the Salon of Culinary Art, organized by the Société Culinaire Philanthropique, was held at the same time as the general exposition, which was under the auspieces of the New York State Hotel Association and the Hotel Association of New York City.

Pan American Child Congress. The fifth congress will be held in Havana, Cuba, in February, 13 to 20, and will include an international child welfare exposition. The congress will be divided into six sections: medicine, hygiene, sociology, education, psychology, and legislation. This is the first congress held within easy distance of the United States and it is hoped that the child welfare interests of the country will be well represented. Information may be obtained from the Children's Bureau, U. S. Department of Labor, Washington, D. C.

Science News Letter. The weekly letter which Science Service has previously issued in mimeographed form is now appearing in print, with text and references so arranged that its individual articles can be easily clipped and filed. Many of the items which it contains provide timely material for home economics classes. Science Service, which is closely connected with the National Research Council and has its offices in the National Academy of Sciences in Washington, has proved so successful in giving out accurate, usable scientific news that other countries are paying it the compliment of imitation.

ALABAMA

Alabama Home Economics Association. The state council met in Montgomery on October 23. Plans were made for a conference on parental education to be held in Birmingham in January. Members of the council arranged the Home Economics Association exhibit at the state fair, attractive features of which were the photographs of Ellen H. Richards, Caroline Hunt, Isabel Bevier, and the group picture of the Minneapolis meeting.

A large number of members expect to attend the annual meeting of the American Home Economics Association. Harriet Gresham, president of the State Home Economics Association, will lead a "motorcade" of Alabama members to Asheville.

Alabama Polytechnic Institute. Representatives of the 9,000 women members of home demonstration clubs organized a State Council of Home Demonstration Clubs at Auburn in August. The program of work includes an advisory committee of which the president of the Parent-Teacher Association and the chairman for home demonstration work of the Alabama Federation of Women's Clubs are members ex-officio. The State Council presented a clock and a copy of Whistler's "Mother" to the girls' dormitory. Mrs. John S. Morris, of Alpine, president of the Talladega County Council, was elected president. The State Farm Bureau amended its constitution to make the president of the State Council of Home Demonstration Clubs an ex-officio member of its board of directors. County councils have been organized in thirty-seven counties. On November 12 Mrs. Morris held the first meeting of the directors of the Council.

Grace Gardner, '26, is at Merrill-Palmer School in Detroit. Margaret Harris Blair, '26, and Gladys McCain, '22, are doing graduate work in home economics at Teachers College, Columbia University.

The first meeting of the Auburn Home Economics Club was held soon after college opened with the president, Eula Hester, in the chair. Reports were made on the Minneapolis meeting, and plans were dis-

cussed for the Ag-Ec Fair, in which the agricultural and home economics students cooperate. At a recent meeting a letter was read from the Chinese girl in Peking University who holds the scholarship given by this group. The Club meets every two weeks and is active in student life.

Nuclohoma, the honor organization in home economics, elected Mattie Mae Allen president and made plans for the year at the first meeting. An open meeting was held November 2 at the home management house.

Alabama College. The bulletin, "Suggested Fashion Shows for High Schools," was ready for distribution on December 1.

Judson College. Interested students have formed a Home Economics Club which expects to affiliate with the American Home Economics Association. It holds two meetings a month, one social and the other educational. In addition food sales, dinner parties, and teas will be given to raise money for new equipment and furnishings for the home economics home. A "Silver tea" was given on November 27.

Woman's College of Alabama. Enrollment in the department of home economics is twenty per cent larger than in 1925–26.

The Home Economics Club at its first meeting entertained the freshmen and gave a program whose subject was the orientation of new students in home economics and in general activities of the college. On October 17 the club entertained the student body and faculty with a buffet supper.

ARIZONA

University of Arizona. Maude E. Jenkins, who has been a member of the home economics department of the University of California, Southern Branch, for the past four years, has been appointed associate professor in home economics. Miss Jenkins received her B.S. from Simmons College in 1915 and her M.S. from the University of California in 1926.

Nina B. Crigler attended the Land-Grant College meeting in Washington, D. C., on November 15 to 18 and presented a paper on "Budget planning."

CALIFORNIA

California Home Economics Association. The officers for the year 1926–27 are: President, Dr. Agnes Fay Morgan, University of California, Berkeley; secretary-treasurer, Mrs. Barbara Reid Robson, Honig-Cooper Company, 507 Montgomery Street, San Francisco; state councilor, Saidee Stark.

The fall number of the California News Letter, published in November, was edited by the Southern Section. It is a smaller publication since the Association has limited the cost to $70 and eliminated advertisements.

Central Section. The first meeting of the year was held on October 16. In order to have the change of officers conform to those of other sections of the state Association, it was voted that the present officers hold over until next spring. An informal discussion of plans for the year followed: Dr. Morgan's suggestion that the section work along the lines of the state program was accepted. A social hour over the tea cups followed.

Bay Section. At an October meeting in San Francisco, Dr. Agnes Fay Morgan discussed new courses in high school which give credit toward graduation in science and social science; Mrs. Barbara Reid Robson the Minneapolis meeting and the Business Section; May Daugherty, child welfare and nutrition; and Mary Patterson, related art.

On December 14 the Bay Section met with the California Teachers Association. The program included an address by Mr. Frank E. Boren on "The place of home economics in the curriculum," and one by Mr. Fred T. Woellner, of the University of California, on "Civic values in home economics."

Chico State Teachers College. Saidee Stark is at Columbia this year on leave.

University of Southern California. Mrs. Gertrude York Christie has returned to her position as head of home economics. She spent the past year studying at Columbia and assisting Dr. Rose.

Los Angeles. Mrs. Susan M. Dorsey, superintendent of city schools, is making a survey of home economics in junior high

schools of the United States, a report of which will be presented to the Department of Superintendence, N. E. A.

State Teachers College, Santa Barbara. Money has been apportioned to erect a much-needed home economics building, due largely to the efforts to Charlotte P. Ebbets, head of home economics.

Orange County. The home economics teachers have pledged themselves to write articles for the local papers on home economics topics.

Fullerton. The High School has an unusually efficient practice cottage in connection with its home economics department. A group of girls moves in on Monday and stays till Friday afternoon of each week.

CANADA

University of Saskatchewan. A five or six weeks' course in farm home economics for girls is to be held in either May or August, under the direction of Miss A. DeLury of the extension department. Subjects will include citizenship, physical training, literature, beekeeping, gardening, dairying, and poultry as well as food, sewing, home management, and home nursing.

Cooperative Buying of Household Commodities. In an address before the recent Congress of the Cooperative Union of Canada, at Edmonton, Mr. W. Waldron, commissioner of Cooperation and Markets, Saskatchewan, pointed out that while consumer cooperation was easier to organize among wage earners than among farmers, women's organizations could be of great influence in promoting cooperative buying of household supplies, and he advocated that cooperative buying be given the same attention in home economics courses in schools and universities that is already given to cooperative marketing.

COLORADO

Colorado Home Economics Association. At the November meeting at Denver in connection with the State Teachers Association (Eastern Branch) the new officers elected were: vice president, Mary Livesay; treasurer, Lena Brooker; councillor, Mrs. Bessie Hawthorne; and secretary, Mary Blodgett, state supervisor of vocational education.

State Vocational Conference. The subject of the state meeting for vocational home economics teachers held in Denver on November 10 and 11 was the problem method of teaching. Maude Williamson, of the teacher training department of the Agricultural College, was leader. All but two state vocational teachers attended.

University of Colorado. A special course for dietitians has been opened in the Colorado General Hospital, in connection with the University of Colorado Medical School.

Denver. Mrs. Kate Kinyon, city supervisor of public schools, and Dr. Hopkins of the University of Colorado are planning to publish early in 1927 a book on general home economics for junior high schools, based on the research in connection with the Denver curriculum revision.

CONNECTICUT

Connecticut Home Economics Association. At a meeting in Bridgeport October 22, Mrs. G. I. Hendrickson reported on the Minneapolis meeting and Jessie A. Long, director of the Commonwealth School, New York, spoke on student clubs in home economics work. After a business meeting and luncheon, Mr. Luis Mora of the National Academy, who painted the "Red Cross Mother" hanging in headquarters of the American Red Cross at Washington, discussed "Training for appreciation."

Connecticut Agricultural College. Of the four honorary recognition certificates awarded during 1926 Farmers' Week to "leaders in agriculture and rural life," one went to Mary Estella Sprague, who retires this year after ten years' service as state leader of home demonstration agent and dean of women at the College. To Miss Sprague is due much of the rapid growth of and interest in the state extension work with women and in the development of the home economics division at the college.

DISTRICT OF COLUMBIA

District of Columbia Home Economics Association. The Homemakers Section is making three studies in cooperation with the economics division of the Bureau of Home Economics: one on efficiency of household equipment, and another on economic value of homemaker's time, and the third a budget study.

Three new sections have been formed: a textile section, which is beginning round table discussions of problems relating to the teaching of textiles; an economics section, which is inviting specialists in economics and sociology to address its members and which holds joint meetings with the homemakers; and a child study section which is looking forward to addresses by specialists in this field.

U. S. Department of Agriculture. Grace Frysinger, who has returned from a summer in Europe, spoke at the banquet of the American Country Life Association on the rural women of Europe. Madge J. Reese is now in Europe and has lately visited home economics institutions in England, Denmark, and elsewhere.

GEORGIA

Georgia State College. Long-term cash scholarships in home economics were awarded at state fairs for general excellence in girls' club work. Five of these were valued at $200 each and four between $75 and $150.

Mary E. Creswell, director of the department of home economics, returned in the fall from a six weeks trip in England and France.

Lois P. Dowdle, state girls' club agent of the Extension Division, has been placed in charge of the Woman's Division of the Southeastern Fair at Atlanta. Miss Dowdle visited the Canadian National Exposition at Toronto August 28 to September 11.

Matilda Calloway, practice school supervisor of home economics in the junior high school of Athens, is spending a year's leave of absence in graduate work at Teachers College, Columbia University. Edith Hanson, former director of home economics of the Fourth District A. & M. School, is taking her place.

Susie Burson, formerly supervisor of rural practice high school, has accepted the position of assistant state supervisor of vocational home economics. Rachel Keith, director of the department of home economics of Washington, Georgia, succeeds Miss Burson.

Marion Ayers of Kalamazoo, Michigan, is a new instructor in the department of physical education.

Willie Vie Dowdy, formerly state district agent of the southeastern division, has been appointed home improvement specialist.

Lurline Collier, formerly state district agent of the Atlanta division, is the new state clothing specialist.

Group Conferences. Between September 17 and October 5 group conferences for home economics teachers were held at Canton, Commerce, Cedartown, Barnesville, Dublin, and Moultrie under the supervision of Epsie Campbell.

Atlanta. An exhibit from the home economics departments of the high schools in Atlanta won a prize of $100 at the Southeastern Fair.

Home economics students at the Girls' High School served a luncheon to the girls' council advisors. The president of the Home Economics Club made a speech presenting each guest with flowers and told of the part home economics could play in directing a girl's outside activities.

Georgia State College for Women. The Home Economics Club has increased its membership this year and has one official meeting and one social meeting each month. The club is also actively concerned with the tea room which is a welcome addition to the campus life. Members of the club have entire charge of the tea room on Monday afternoons, the proceeds of the day being used for club activities.

IDAHO

University of Idaho. Alice L. Edwards visited the campus on October 25 and addressed a small but representative group of

women at a luncheon at the Blue Bucket Inn. She discussed the program of work of the American Home Economics Association. Those present were impressed with the far-reaching influence of the Association and the many contacts made with allied organizations.

Material for a bulletin on "The present use of time by homemakers" went to press in November. This is a summary of the results obtained from a study made with Purnell funds last year by Mrs. C. C. Crawford, graduate student in home economics.

Marjorie Eastman, a teacher in home economics in New York State College of Agriculture for the past five years, began work as state clothing specialist in September.

The Home Economics Club, affiliated with the State Federation of Women's Clubs and with the American Home Economics Association, began the year with an attendance of eighty members at its first meeting. A fifty-dollar scholarship was raised by the club in October.

All members of the senior class in home economics have subscribed for the JOURNAL.

Food expenditures of farm families will be a Purnell project for 1926–27. It will be carried on by Mrs. Mildred Waters Talbott, a graduate student in home economics, assisted by Verna Johannesen, home demonstration agent for the Northern District.

Phi Upsilon Omicron. The following initiations are announced: Sara Sumsion and Dorothy Howerton, seniors; Cleo Miller, Alice Melgard, and Helen Hunter, juniors. A banquet at the Blue Bucket Inn followed the initiation. The society will be one of those to hang its charter in the periodical and club room which the organizations are equipping in the new University Library.

ILLINOIS

Illinois Home Economics Association. The sixth annual meeting was held at Springfield October 22 and 23, with more than 300 attending. The program on the first day included a message from Lita Bane and an address by Dr. Louise Stanley on "Forward trends in home economics work." Sectional meetings were held the next day, followed by a general gathering in the evening, at which Alice Loomis discussed "Present-day home economics and the home." A business meeting was then held at which Frances Swain, Chicago Normal College, was elected president, and Laura Avery treasurer. Other officers hold over. On Friday afternoon visiting members were taken for a drive around the city and entertained at tea in the Executive Mansion.

State Board for Vocational Education. The fifth all-state conference of vocational homemaking teachers met at Springfield October 21 and 22.

University of Chicago. Beulah I. Coon, of the University of Nebraska and chairman of the home economics section of the American Vocational Association, has joined the staff as assistant professor of home economics education.

The cooperative nursery school has increased its staff by two new teachers. Mrs. Alfred Alschuler and Mrs. Edwin J. Kuh, who for a number of years had sponsored the Community Nursery School in Chicago, have given up that school and donated $2,500 and their equipment to the University Nursery School.

Ruth Cowan, the Ellen H. Richards fellow this year, holds also one of the five University fellowships in home economics. Applications for the 1927–28 fellowships should be in the hands of the graduate deans before March 1.

The three women who took their doctorates in home economics last year have the following positions: Dr. Jessie Whitacre is doing home economics research under the Purnell Act at the State College of Texas. Dr. Marguerite Mallon has returned to her position at Purdue University. Dr. Alice Willard is assistant professor of home economics in the University of Toronto. For her thesis, Dr. Willard did research under a grant from the Evaporated Milk Association to determine the availability of calcium, phosphorus, and nitrogen from pasteurized and evaporated milk.

Lewis Institute. Two members of the teaching staff left during the summer to

become homemakers. Irma Raeder became Mrs. Earl Johnson in June and Ethel Hood became Mrs. Bert Essex in August.

The student club is much larger and more active than last year. At the last meeting the members were the guests of Baby Lucile at the home management house.

Chicago Public Schools. Jenny Snow is at work again after a rest of six months.

The eighth grade clothing class at the Libby School, as a problem in hygiene and economy of clothing, made a collection of dresses and of family photographs of the nineties and the beginning of the twentieth century. Comparisons with present-day styles were interesting and valuable.

INDIANA

Indiana State Home Economics Association. A homemakers section was organized with Mrs. Florence Busse Smith as chairman. Research work on the family budget is being carried on this year.

The Indiana News Letter has been changed from mimeographed to a printed form this year. Mary Beeman is editor.

The Association aided the Home Economics Teaching Division of the Indiana Federation of Women's Clubs to make a survey of conditions under which home economics is taught in Indiana. The results were sent to Mrs. J. C. Gawler, national chairman, for the Atlantic City Biennial, and were judged by Mrs. Maggie Barry, chairman of the Department of the American Home, Mrs. Gawler, national chairman of Home Economics Teaching, and Mrs. Harry A. Burnham, chairman of Homemaking. Three states received awards: Idaho $25, Indiana $15, and Kentucky $10.

KANSAS

University of Kansas. Viola Anderson has returned from study at Yale University. Mrs. Amy V. Rader, who taught during Miss Anderson's absence, is now with her family in Howard, Kansas. Margaret Lorimer, who supervised the teaching in the training school last year, is now head of the home economics department in Park College.

The University Commons is under the directorship of Hazel Parks, who has been in hospital dietetics work at Milwaukee.

The Child Research Bureau of the University of Kansas, of which Dr. Florence Brown Sherbon is director, and the Children's Bureau of Kansas City, will cooperate in a Mid-Western Conference on Parental Education, March 2 to 5, 1927, at Kansas City.

Elizabeth Sprague discussed the "Proposed new course of study for home economics for grades and high schools of Kansas" at the State Teachers Association at Hutchinson.

Kansas State Agricultural College, Manhattan. Dr. Margaret Justin attended the Association of Land-Grant College meetings in Washington, D. C., in November. She was out-going chairman of the home economics section of that body.

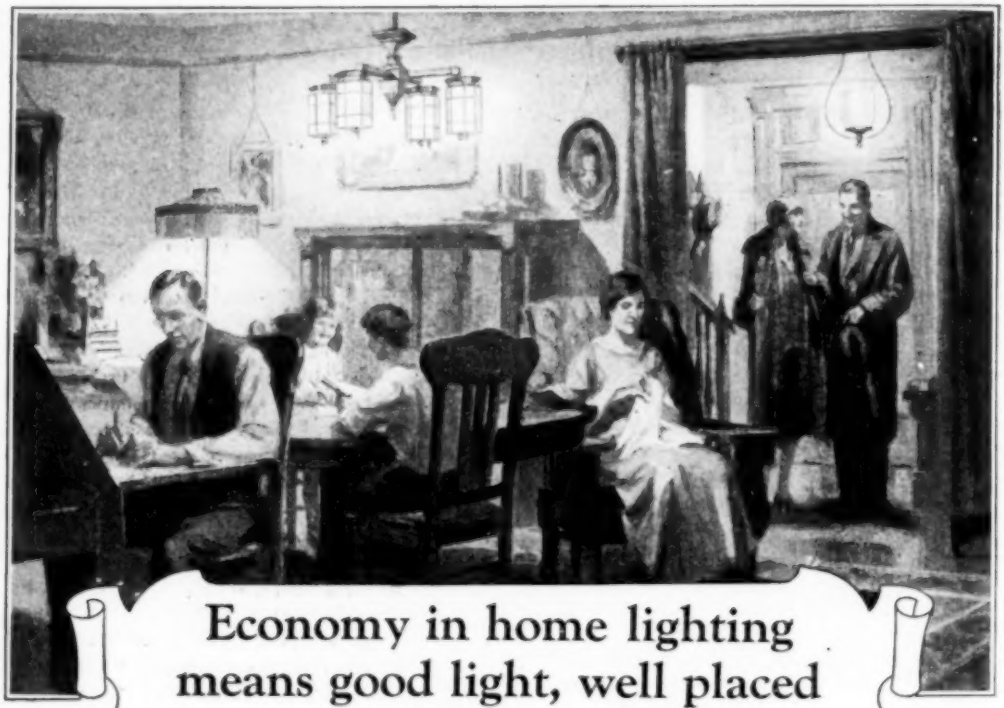
The Kansas State Teachers Associations met the first week in November. Dr. Justin made an address at Topeka on "Teaching family relationships," and Martha Pittman of the foods and nutrition department spoke at Hutchinson on "Problems in presenting foods courses."

Martha Pittman, Ethel Arnold, and Elma Stewart visited Italy, France, Switzerland, Germany, and England during the summer. Miss Stewart made a special study of restaurants abroad.

Louise Everhardy has returned to her work in the applied arts department after a year's leave of absence during which she received her master's degree from Columbia University.

Bernice Fleming has returned to the college after two years at Merrill Palmer School, as instructor in household economics, and has charge of the new nursery school.

New members of the staff of the home economics division this year are: Dr. Helen Ford, head of the department of household economics, who received her doctor's degree from Yale and has been research worker in the Children's Bureau; Dr. Margaret Chaney, associate professor of food economics and nutrition, formerly of the University of Minnesota, who will devote her time to dietetics and research; Elizabeth



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Quinlan, a former extension worker, now instructor in clothing and textiles; Myrtle Gunselman, Iowa Teachers College, instructor in home economics and in charge of the Ellen H. Richards Lodge, the practice house; Mattie Craddock, formerly instructor in the clothing department at the College of Industrial Arts at Denton, Texas, instructor in the clothing and textiles department; Grace Steininger, who graduated in 1925, laboratory assistant in foods; Acsah Johnson, '26, assistant in cafeteria. Graduate assistants are: Josephine Brooks, Melva Bakkie, Gladys Hartly, Marianne Muse, Carol Knostman, Gladys Winegar, Mamie Grimes, and Bella Nelson.

Van Zile Hall, the new dormitory which houses about 125 girls, was opened last fall. Alice Mustard, who has recently received her M.S. from Chicago University, has charge of the hall and also teaches classes in institutional management.

Mary Polson, formerly assistant professor in the clothing and textiles department, is in charge of art and applied design at North Texas State Teachers College, Denton.

Kansas State Teachers College, Hays. Jessie Pearce, Washington University, has been added to the home economics faculty, in charge of home nursing and child welfare.

The Home Economics Club, which has a membership of thirty, arranged a special program for Ellen H. Richards Day. Violet Briggs is president.

Kappa Omicron Phi entertained the alumnæ of the sorority at a breakfast during the State Teachers Association.

MASSACHUSETTS

Massachusetts Home Economics Association. The fall meeting was held October 23 at Wellesley College. The main addresses of the day were by Mrs. Ann Dennis Bursch, living costs chairman, Connecticut League of Women Voters, on "Electric power and the home," and by Mrs. Cornelia James Cannon of Cambridge on "Keeping up with our children." The two themes were shown to be related by the fact that when the use of electricity eliminates drudgery, more time is available for keeping up with the children. Especial emphasis was placed on the value of electric power to rural homes, on the need for bringing about as cheap rates and as extensive use of electricity in the home as in industry and transportation, and on the need for investigation of the uneven cost. The National League of Women Voters is to publish and sell Mrs. Bursch's address at a nominal rate.

Three types of opportunities in nutrition available in Massachusetts this fall have reached all sorts of women: the usual seminar led by Alice Blood, of Simmons College, meeting in Boston under the New England Home Economics Association; a series of six lectures on "Newer aspects of nutrition," by Grace MacLeod, of Teachers College, Columbia University, given in Springfield, under the Connecticut Valley Association; the extension courses at the Massachusetts Agricultural College, Amherst, whose registration has more than doubled the past year, offering courses in child feeding, food selection, advanced nutrition, and vegetable preparation.

A section of the Association has recently been formed in Berkshire County.

Massachusetts Agricultural College. Mrs. Annette Herr of Teachers College, Columbia University, succeeds Lucile Reynolds as state leader of home demonstration work.

MAINE

Maine Home Economics Association. At the fall meeting at the University of Maine, the following officers were elected: President, Helen Lockwood; secretary-treasurer, Madeline Kingsley; councilor, Florence Jenkins; alternate, Mary Palmer; executive committee at large, Pearl Greene and Estelle Nason; news-gatherer, Mary Byrne.

After the meeting the girls of the practice house gave a well-attended tea in honor of Miss Goodspeed of Arkansas.

University of Maine. Edna Cobb, for five years clothing specialist in Maine, is now studying at Cornell. Her position is being filled by Helen Spaulding, recently home demonstration agent in Morris County, New Jersey.

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Put waffle iron on to heat before starting preparations. Sift flour, baking powder and salt together; add milk to egg yolks and add to dry ingredients, beating well; add shortening which has been cooled; mix in beaten egg whites. Bake in well greased, very hot waffle iron until brown on one side; turn and brown other side. Serve immediately with butter and maple syrup.

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The following appointments of home demonstration agents were made during the summer: Androscoggin and Sagadahoc counties, Catherine Cook; Cumberland, Elizabeth Smart; Knox and Lincoln, Nettie Simmons; Oxford, Effie Bradeen; Washington, Katherine Brewer; and York, Clara Bronson.

"Maine in the Market." During the Portland Convention of the National Grange in November, the American Legion conducted a huge exposition called "Maine in the Market." In the booth given over to the Department of Education teams of boys and girls gave demonstrations at 2, 4, and 8 o'clock. The home economics demonstrations included making a dress and blouse, lamp shade, ruffled curtain, satin hat, baking biscuits and variations, cooking and packing the food for a lunch box. In the booth was also a display of sewing and canning. The girls were chosen from high schools of Portland, Deering, South Portland, Bangor, and Westbrook.

MICHIGAN

Michigan Home Economics Association. The annual meeting was held in Marquette, October 8, in connection with the Michigan Education Association of District No. 7. Ellen Miller, of the Merrill-Palmer School, gave an address on child care and training and Irma Gross of Michigan State College spoke on the social problems of home economics education. The afternoon was given over to round table discussions on foods and clothing. The officers for the year are: President, Jessie Walton, Kalamazoo; vice president, Minnie Irons; secretary, Carol Davis, Highland Park; treasurer, Ruby Anderson; councilor, Lulu Becker; alternate, Marie Dye.

Teacher Training. A committee, consisting of members of the home economics education department of the normal schools and colleges in the state, which meets twice each year to work on subjects of common interest, will meet at Kalamazoo in January and at Mt. Pleasant later.

Western State Normal. To fill the places left vacant by Alba Stenson, who was married last summer, Mrs. Bernadine Chapion Cain, now in Teachers College, Columbia University, and Miss Cummings, who is studying at Iowa University, three new members have been added to the staff: Cora Walker from Texas, Frances Evelyn Walton, Council Bluffs, Iowa, and Constance Herbst of Philadelphia, all of whom took their master's degrees at Columbia University last year.

Cass Technical High School. Home Economics Day celebration this year extended over two days. On December 1, the home economics clubs from the other high schools in the city were entertained at tea and on December 3, Mrs. Richards' birthday, a girls' assembly was held at which Eleanor Hutzel, chief of the woman's division, department of police, gave a talk concerning her work with girls. The Ellen H. Richards Club was in charge of both events.

State Normal College, Ypsilanti. The new members of the home economics faculty are Lucy Aiken of Philadelphia and Mary Margaret Show of Manhattan, Kansas. Miss Aiken has charge of the Ellen H. Richards House and teaches nutrition and food. Miss Show has courses in marketing, health education, and food. The teacher-trainer work this year is under Sara Murray and Estelle Branch.

MINNESOTA

Minnesota Home Economics Association. The Homemakers Section, which meets once a month, is making house furnishings its main subject for study for the year 1927. During 1926 the work was on child welfare.

Extension Service. Ethel Regan, for several years home demonstration agent in Watonwan County, has gone to Maryland as a county home agent.

Minneapolis. Angie Keenan, formerly in the nutrition department of the National Dairy Council, is now in charge of the shopping service of Young Quinlin Co.

MISSOURI

Springfield State Teachers College. The home economics staff is giving dietetics extension courses in two hospitals.

Margaret Whittemore has resigned to do Purnell research work in home management in Rhode Island. Mrs. J. W. Schmalhorst is taking her place.

Kirksville State Teachers College. Mrs. Kathleen Still is on leave of absence to do graduate work at Chicago University.

The active home economics club has sent student delegates to both the state and national meetings.

Annual State Conference for Vocational Home Economics Teachers. This was held November 8 and 9 in Kansas City. Mabel V. Campbell discussed "Problem solving;" Birdie Vorhies of Nebraska "Adult education;" Mrs. Lulu Lancaster of Iowa State College "Child care and training;" and Lila M. Welch related art work. Attendance and interest were unusually good.

MONTANA

Montana Home Economics Association. Alice Edwards brought a helpful message to the seventh annual meeting at Helena in October. A membership increase from eighty to one hundred was set as the 1927 goal. More active cooperation with homemakers in compiling useful home data and increased emphasis on the subject of parental education and child care were included in the comprehensive program of work.

Montana State College. The Home Economics Club entertained for Alice Edwards at a special meeting in October at which the home economics trained homemakers of the city were also guests.

Extension Division. Edith Mott of North Dakota and Teachers College succeeds Inez LaBossier as state clothing specialist. Jessie McQueen of Minnesota and Teachers College succeeds Suzanne Thompson as state nutrition specialist. Vangel Russell comes to Montana from Wisconsin as assistant 4-H club leader to take the place of Doris Ingram, now Mrs. Anderson.

A home improvement contest under the direction of Miriam Hawkins, state home management specialist, was carried on this summer with a community of Sioux Indians. All work was done through interpreters as the squaws do not know English.

NEBRASKA

Nebraska Home Economics Association. At the annual meeting of District No. 3 held in Norfolk, Clara Noyes presided. The officers elected for the year are: Jessie Bell Woodworth, Wayne State Teachers' College, president; Tillie Saxton, Newman Grove, secretary.

Wayne State Teachers College. The home economics club has worked out an interesting program, beginning with the first meeting of the year when a history of the club since its organization two years ago was given.

Extension Service. Nebraska's new extension project is called "Making the home attractive."

Last year's project of "Music for the family" was enjoyed so much that a second year's work called "Music for every day" has been arranged. In each meeting of a club taking extension work this year, one selection is played as a listening number and the story connected with the writing and composing of the piece is told, then a song is memorized by each member and sung during the twenty-minute period devoted to music in the monthly meeting of women's extension work.

University of Nebraska. Mrs. Dewey (Hattie Hepperly, '21), who has been in India since graduation, visited the home economics department with her small daughter recently. Mrs. Dewey presented to the department a number of rare textiles which she found in India, one of them a cashmere shawl nearly 300 years old.

Mrs. Weaver (Anna Dee, 123) has had two articles in Hygeia during 1926: "Run Away and Play," in April, and "You Can Seat a Child at a Table, But—" in June.

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